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Baltimore, Md., January 9, 1930

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EXPONENT OF AMERICA

Devoted to the Upbuilding of the Nation Through the Development of the South and Southwest as the Nation's Greatest Material Asset

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More Highway Building Urged by President Hoover

SO great has been the advance in highway building of recent years that many people are likely to forget that what has been done and what is being done is very small as compared with what must be done.

President Hoover, in his annual message to Congress, called attention to the fact that there are 3,000,000 miles of legally established highways in the United States, of which about 10 per cent are included in the State Highway systems, the remainder being county and other local roads. Of this total, about 626,000 miles have been improved with some type of surfacing, comprising about 63 per cent of the State highway systems and 16 per cent of the local roads. Of the improved roads, however, only 102,000 miles are hard surfaced, comprising only about 22 per cent of the State highway systems and about 8 per cent of the local roads. Some of the local roads may ultimately be turned back to farm purposes, but road construction as a whole must have a long continued program, Mr. Hoover thinks. About 50,000 miles are partially improved annually, but only about 12,000 miles are of the more durable types of roads.

"Federal aid in the construction of highway systems," said President Hoover, "in conjunction with the States has proved to be beneficial and stimulating, and the nation must ultimately give consideration to an increase of the Federal contribution to these systems, particularly with a view to stimulating the improvement of roads between the farms and the towns."

The statements of President Hoover—though not new to readers of the MANUFACTURERS RECORD—carry the weight of his official position, and will doubtless result in the passage of a bill for a much larger contribution from the Federal government toward the building of highways.

Secretary Hyde, of the Department of Agriculture, under whose direction the Federal government's expenditure in highways is carried on, in his report states that there has been apportioned without any further appropriation by Congress a total of $73,125,000, previously authorized by Congress, for road construction in the fiscal year 1931, details of which were published in the MANUFACTURERS RECORD recently.

In discussing the highway building program of the country, Thomas P. Henry, president of the American Automobile Association, said:

"With every indication that Congress will increase Federal aid appropriations to stimulate road building throughout the country, expenditures for highway and street construction and maintenance in 1930 will exceed $2,500,000,000 and furnish employment to 625,000 people.

"But large as this program appears, it must not be assumed that it measures up to the road building needs of the nation today. The nation's highway bill in 1928 totaled $1,659,691,990, and preliminary estimates for 1929 place the amount at well over $1,800,000,000.

"An additional $50,000,000 in Federal aid appropriations to be matched with a similar amount by the states, together with the speeding up of construction generally, as pledged to President Hoover by state executives, will easily mean an increase of $200,000,000 in road expenditures next year.

"To this must be added approximately $500,000,000 a year spent by municipalities for construction and maintenance of streets. This amount will in all probability be exceeded in 1930.

"It is estimated that every $4,000 spent in the construction and maintenance of streets and highways is equivalent to the wages and materials used by one worker. On this basis the anticipated $2,500,000,000 program in 1930 would mean the employment of 625,000. Of this number approximately 100,000 represents highway officials, contractors and engineers, the remainder constituting the highway labor army."

Highway development under the system of a tax on gasoline, is the most logical method of financing such work, and as the MANUFACTURERS RECORD has stated in the past, people have come to realize that with the gasoline tax available highway building entails no additional costs to the general public. It does not add a dollar to the taxation on property. The automobile owner who pays the gasoline tax—which is about 2 tenths of a cent a mile—actually saves money by the use of good highways, built and maintained by this tax, through the lessened consumption of gas per mile of travel and the reduction of wear and tear on car and tires. The very man who pays the tax, therefore, is benefited by the payment he makes and the public at large does not have to contribute at all, except through the consumption of gas in automobiles.

In the day of horsedrawn vehicles, when all roads were bad, every section was in this respect on a par with every other section, but today, with our motor transportation facilities, the section which does not have good highways necessarily retrogrades in prosperity and that means in educational and religious life. Where there is no prosperity there can be no funds with which to maintain schools or churches. It is incumbent, therefore, upon every state to exert its utmost power for the extension of highways, not only for main lines of traffic, but for the building of highways out into the country districts to enable the farmers to go to and from neighboring cities under the most favorable conditions.

The men charged with the responsibility of planning for highways and for their construction, and the contractors who do the work, have a moral responsibility to the welfare of humanity which demands the very highest order of honesty and honor. Any man who fails to appreciate this responsibility and who fails to do his utmost in honest work—that every dollar expended may bring forth the best results—saps the foundation of his own character and his influence for the welfare of his fellowmen.

SENATOR PINE'S CHRISTMAS GIFT

MEASURED not in dollars and cents perhaps, but in its value to every recipient and to the country at large, the Christmas gift of Hon. W. B. Pine, United States Senator from Oklahoma, to 10,000 or more of his friends, is of wide-reaching importance. It is a beautifully printed and bound book of 77 pages, entitled:

"The Fundamental Principles of the American Government.
"Declaration of Independence.
"Constitution of the United States of America.
"Washington's Farewell Address.
"Lincoln's Gettysburg Address.
"Lincoln's Second Inaugural Address.
"Christmas, 1929."

Senator Pine has gathered into this book things which every American citizen should study. Opening with the picture of Thomas Jefferson, there follows the Declaration of Independence, July 4, 1776, with the names of all the signers; followed by the Constitution of the United States, including all the amendments to date. Then comes the well known picture of George Washington, followed by his Farewell Address, which fills over 20 pages.

Never can a clearer light upon Washington's abilities, his statesmanship and his foresight be found than is here presented in his Farewell Address. With a judgment that marks him as a man of tremendous mental power, with a foresight that shows a prescience or prophetic vision rarely to be found among men, Washington in that day laid down, when this was but one of the tiny countries of the earth measured by population, the rules and regulations which should guide us through the coming years. To read this address carefully in the light of modern conditions one is necessarily impressed with the truly marvelous foresight with which Washington measured all of the influences of the coming years that would seek to draw us away from the line of safety in our own affairs and entangle us with the political activities of other countries.

Here we read:

"The great rule of conduct for us in regard to foreign nations is, in extending our commercial relations, to have with them as little *political* connection as possible. * * * Europe has a set of primary interests which to us have none, or a very remote relation. Hence she must be engaged in frequent controversies, the causes of which are essentially foreign to our concerns. Hence, therefore, it must be unwise in us to implicate ourselves by artificial ties in the ordinary vicissitudes of her politics, of the ordinary combinations and collisions of her friendships or enmities. * * * Why forgo the advantages of so peculiar a situation? Why quit our own to stand on foreign ground? Why by interweaving our destiny with that of any part of Europe entangle our peace and prosperity in the toils of European ambition, rivalship, interest, humor and caprice?"

This brief condensation quoted from his 20-page address indicates that the wisdom and judgment put into that address should today command the thoughtful attention of every man and woman in America. It would seem that Washington had almost Divine inspiration in the wording of that Farewell Address.

This booklet of 77 pages, so attractively prepared by the printers under Senator Pine's direction, should in some way be put in the hands of every student in this country, from the grammar school to the university. It should be in every home and in every public library. Senator Pine has rendered his friends a very great service in presenting to thousands of them—and this must have represented a cost of many thousands of dollars—this book as a Christmas present. But it seems to us that in some way it behooves him in the interest of the country to find a still wider field for its distribution, that the young people as well as the older people of this generation may have their minds refreshed by a study of the Constitution so carefully condensed, and by the study of Washington's Farewell Address, given in full, and the speech of Lincoln at Gettysburg which made history, enabling young and old to get a new light upon the problems which we as a nation face today, problems so clearly foreseen and the solution of which was so clearly set forth by that marvelous statesman of the world, George Washington.

HIDDEN OR HOARDED GOLD USELESS TO THE WORLD UNTIL DRAWN INTO CIRCULATION

GUY M. WALKER, a financial attorney of New York, in a recent letter to the MANUFACTURERS RECORD advanced the thought that there is a vast amount of gold in jewelry that might be drawn into use if the country really needed an additional supply of the precious metal. It was suggested to him that it would hardly be possible to commandeer gold jewelry, but in reply he gives some interesting facts as to the vast but unknown amount of gold lying idle in this country and in hiding in other lands. In the course of his letter Mr. Walker said:

"It is undoubtedly true that an attempt to 'commandeer' gold in this age and generation would raise a 'holler', but, as the old saying goes, 'There are more ways of killing a cat than choking it to death with melted butter.'

"You must certainly recall how only a few years ago—since the war—the appeal of the French Government to the French people, to dig up all the gold they had hidden or could spare, resulted in the production from unknown sources of several hundred million dollars worth of gold which was put into the Bank of France and paid for with paper notes. I do not recall the exact figures but I do know that at the end of a given number of months, which was not many, that more than $250,000,000 of hidden gold coin or old jewelry was produced and turned into the Bank of France and before the movement was over there was a considerable sum above this. It was the gold brought to light in this manner following the appeal of the Government to the people that first started the Bank of France on its accumulation of gold when francs themselves were dropping to two and three cents.

"I have several times wondered how much gold is lying around in our United States. I happen to know that Mrs. Walker has quite a bunch of gold coin which she has kept for several years. They were director's fees that I received some years ago from two companies whose directors meetings I attended and who always paid with $20 gold pieces. Those I turned over to Mrs. Walker and for no reason in particular she has simply kept them hoarded. A few years ago I was the attorney for the estate of an old lady who had inherited a large estate from her uncle. Among the things I found in the safe that belonged to the old man, who had died 40 years before, was a large sheet of flannel in which were sewed gold coins, all of which antedated 1850. I selected a number of these oldest coins from the bunch myself, recouping the estate for their value, and have kept them ever since. I do not now remember the total value of the gold coin that we found but it was several thousand dollars. No one had ever known that this sum of gold was in the old man's safe. I simply mention this because I am satisfied that there is not less than $500,000,000 in gold coin hoarded among our people which could be easily brought to the surface if any appeal were made to the people showing that the business of the country needed it and they could get say $1.10 in treasury notes or reserve bank notes for every dollar of gold they would turn in."

This is an interesting suggestion, but we wonder if the American people would have the same keen sense of patriotism as the French and surrender their hoarded gold, unless we were faced by the same kind of war conditions as those which had stirred French patriotism to its depths. And would not people again hoard the gold, hoping at some future time to sell at an advance such as Mr. Walker has suggested in this particular case?

GENERAL BROWN PROMISES SPEEDY COMPREHENSIVE DEVELOPMENT OF TENNESSEE RIVER SYSTEM

THE most encouraging news for solution of the twin problems of the development and use of the great potentialities of the Tennessee River system and Mississippi flood control that has been heard for a long time comes from a recent dinner at Chattanooga. "The most exhaustive report that has ever been made on a river in the United States is now being made on the Tennessee," said Major General Lytle Brown, Chief, Corps of Engineers, United States Army and guest of honor at the dinner. And he added that the development of the Tennessee River and its tributaries is included in a comprehensive plan of controlling the flood waters of the Mississippi. For, said General Brown, "Every possible way is necessary in order to be successful, levees as well as the introduction of reservoirs, wherever they can be introduced economically."

General Jadwin, when Chief of Engineers, reversed the policy of all his predecessors by declaring that levees alone were inadequate and bypasses would be necessary, but upheld the traditional policy of his Corps in saying reservoirs were unnecessary and useless. General Brown now reverses his predecessor by admitting the necessity and the desirability of reservoirs "wherever they can be introduced economically," thereby going far to vindicate the assertion made by Richard Woods Edmonds in the MANUFACTURERS RECORD when he said, on August 4, 1927, "Levees we must have * * * Spillways we may have. * * * But as a means to prevent flood damage on the tributaries, and to reduce flood crests on the Mississippi to a height that levees and other works can carry without danger, there is no substitute for reservoirs."

"There has been a most thorough investigation right here on the Tennessee concerning the construction of reservoirs," General Brown continued. "If we are ready to experiment, there is no better place to do it than in the valley of the Tennessee."

Major Watkins, army engineer who succeeded Lieut.-Col. Harold C. Fiske in charge of the Tennessee River survey, worked out an elaborate plan for coordinating power development, improvement of navigation and reduction of floods in the Tennessee by means of storage. The political deadlock on Muscle Shoals has completely blocked development on the Tennessee and so diverted public interest from Major Watkins' very important report; but developments by individual power companies on other rivers, rivers not tributary to the Mississippi, show how floods can be controlled and converted from liabilities into great assets.

Needless to say, the power companies do not relish the use of their dams for the specific purpose of flood control, because the demands of one purpose to some extent conflict with the other, and power dams cannot be operated at their maximum efficiency for generating power if they are to be used also for reducing floods in a large system. Neither can they render their greatest aid to flood control if they are to be used for power. Nevertheless, by sacrificing a part of the maximum power possibilities and a part of the maximum flood control effects, an effective balance can be struck; and this is the policy that must be worked out in order to secure the greatest public benefit from our rivers.

Every river, and every dam on any one river, is a problem all its own, and the coordination of all of the economically feasible dams to produce the maximum public good in power when feasible as on the Ohio and its tributaries; in irrigation where desirable, as on the western rivers; in navigation on most of them; and in flood control for the system as a whole, is a gigantic engineering task but one well worth undertaking for the enormous wealth that can be created from what is now a recurrent scourge. "Under the proposed plan the Tennessee River has a potential power of 2,000,000 H. P. on its main stream, with 2,000,000 or more on its tributaries," said General Brown.

That a start may be made on this great program at a much earlier date than any of us had realized is indicated not only by what General Brown said about the survey on the Tennessee and the latent power it discloses, but also by his statement that upon the request of the President all such work is being given immediate consideration and the further remarks of Senators and Representatives who were speakers at the dinner, and who pledged early action on Muscle Shoals.

The controversy that has raged over the disposal of the Wilson dam and power plant, and the two nitrate plants built along side of them, has made that property the key to the whole Tennessee River system not only, but also, though less directly, the key to the problem of reservoir control of the Mississippi floods. There are several reasons for the river's important place in this great problem. It is the most thoroughly surveyed undeveloped river in the country. It is the largest tributary of the Ohio which is, in turn, the largest tributary of the Mississippi and finally, if one river can be called typical of a whole system, the Tennessee is typical of all the tributaries of the Ohio that flow from the South—for all of them come from the mountainous country of West Virginia and Kentucky, and are capable in greater or less degree of regulation by reservoirs which can be used for large power generation. If the floods of the Tennessee can be made to pay for their control, then it is a pretty safe conclusion that those of the Cumberland and the rest of them can be made to pay all or a large part of the expenses of their own regulation.

Once the army engineers can demonstrate on paper that the Tennessee can be even passably regulated economically, and that fact becomes generally known, the public and Congress will join with the great engineer in the White House in urging the adoption of a comprehensive public policy of river control that will convert the floods of the vast Mississippi system from disasters into gold mines.

"GET A MOVE ON YOU OR WE WILL RUN OVER YOU"

THE world's largest manufacturer in his line, Willoughby M. McCormick, president of McCormick & Co., Inc., Baltimore, importers, exporters and grinders handling spices, teas, flavoring extracts and drug specialties, in a letter to the MANUFACTURERS RECORD referring to business conditions, writes:

"While the slump in New York resulted in a heavy loss to some, I think, on the whole, our country is in better shape than ever before. Certainly our merchants are beginning to realize that they make more money and make it easier by cleaning house and keeping things up-to-date, as they are rapidly learning to do, especially in the grocery line. In fact, I find that many retail grocers have made more money this year than for many years heretofore."

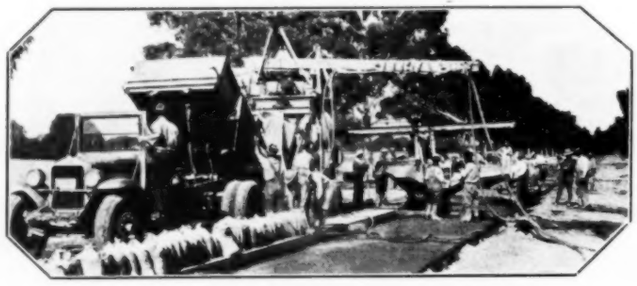
In the course of his letter Mr. McCormick said:

"I know of no other paper that gives such a complete and comprehensive digest as the MANUFACTURERS RECORD and I always find there 'real meat' on which to feed.

"While I enjoy and profit more by these articles, yet I also get a real kick, as we say on the street today, by reading and noting the advertisements. They are always up-to-date—seem to speak to me personally, saying 'get a move on you or we will run over you.' Hardly an issue is received in which we do not find something of interest and write to the advertisers about it. In this way we have been able to get a great deal of information and made a number of purchases."

It is a pleasure for the MANUFACTURERS RECORD to pass on this commendation and appreciation of the advertisements appearing in its columns.

Build Immediately Needed Highways and Thus Aid Country's Prosperity



A White Truck Dumping Into a Road Paver

ROAD and bridge construction work is going rapidly forward in an endeavor to improve a larger part of our more than 3,000,000 miles of highway. Yet, so fast has registration of motor cars, buses and trucks increased, and with this an even greater increase in vehicle usage—due to shorter working days and weeks, to higher wage scales, better living standards, more efficient maintenance and prompt snow removal, together with the practically universal introduction of the closed car—that we are now, and have been for several years, wearing out roads and streets and putting new vehicles on the highways at a rate exceeding the proportionate increase in improved mileage. Thus traffic congestion, which only a few years ago was confined to major centers of population, is general throughout the country and prevails in cities, towns and on main highways.

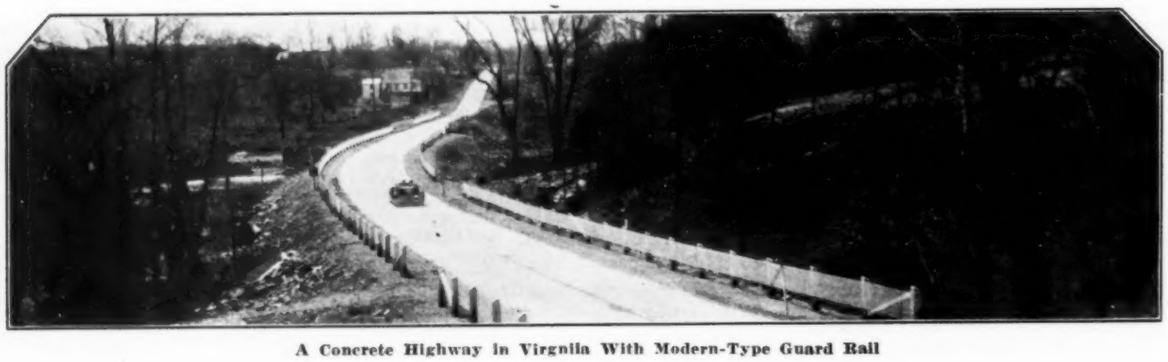
Road Needs Widespread

There is urgent need for building greater mileages of permanent highways on heavily travelled routes and for relief of traffic congestion on arterial highways through widening and building parallel roads. Moreover the situation in agriculture and the movement for rural development through decentralization of industry demands that consideration be given to building all-weather low-cost highways. In fact, the urge for low-cost highways for rural areas has become so imperative that many states have already undertaken to build secondary state highway systems on an extensive scale. Other states are studying the situation and efforts will be made to secure an appropriation of federal aid for this purpose.

THE tremendous volume of essential and sorely needed public improvements throughout the country is strikingly revealed by an examination of the country's highway and paving needs. It is apparent that the unemployed in any time of industrial depression or slackening of building and construction efforts may be profitably put to work carrying forward some of the highway projects here referred to. No effort has been made to make a complete list of the great number of economically sound undertakings, but to simply point out here and there some of the more evident needed improvements which forcefully indicate the tremendous potential volume in the aggregate of work of this character. Thus is constituted a veritable store-house of construction opportunities which this country may draw upon with a view to profitably concentrating its efforts, money and millions of men to the great good of the public and industry in general. Even a cursory examination and a partial inventory of the possibilities in this particular field is such as to stir the imagination and to present a clear picture of the illimitable opportunities for expansion of highway transportation facilities for the nation's economic well being.

Research Efforts Extensive

Road builders and engineers will not be taken unawares by these demands for improving secondary roads, for research has been under way by federal and state highway officials, manufacturers of machinery and materials and various cooperative groups with a view to developing methods of utilizing cheap, abundant local materials in building surface treated highways to carry initially a volume of traffic which may not be large enough to justify high type surfaces and which may serve later as a base for permanent-type pavements. Encouraging progress has been made. Various satisfactory methods have been evolved and sufficient engineering skill has been acquired, and machinery and requisite special materials have been produced to insure large scale production of low-cost roads. Research will be vigorously pros-



A Concrete Highway in Virginia With Modern-Type Guard Rail

ecuted and undoubtedly more improved processes perfected. Indications are that a wide variety of materials not now used for road surfaces will be made available.

Aim to Improve Road-Building Production Methods

Manufacturers have produced efficient machinery to replace manpower and thus cut road building cost. Engineers and contractors are, therefore, concentrating now on utilization to the best advantage of units comprising road building manufacturing plants—for such they are. Power graders, draglines, power shovels, loading and unloading devices, conveying machines, tractors, motor trucks, industrial railway locomotives and cars, high-capacity concrete mixers, power finishing machines for concrete and asphalt pavements and varied auxiliary equipment go to make up the modern road contractors' production tools. Such unified outfits differ only from our efficiently managed industrial plants in that they are mobile and deliver their finished products—roads—in place, whereas established manufactories turn out finished products and then distribute them through regular channels of trade to consumers. Thus there are being developed efficient methods to coordinate operations of the various units comprising road-building outfits, to insure maximum indicated production which is determined by key units. In the case of plants for building concrete highways the mixer is the key unit and this governs the size, number and capacity of all auxiliary equipment for an efficient and satisfactory outfit. Attention is not only being given to reducing time lost through bad weather and major tie-ups but also to speed up production by methods that have proved so successful in our industrial plants—taking up the slack through small time interval delays and also lost motion through lack of proper coordination. Such activities result in the building of better roads in shorter time and make possible the acquisition of such facilities at minimum cost to the public.

Strive Hard For Best Utilization of Existing Facilities

Traffic engineers and highway officials are also giving serious attention to obtaining the utmost in service from present road and street facilities. Route markers, caution and guide signs have quickened the movement of traffic and increased the factor of safety. The building of by-pass roads around centers of population accelerates the flow of through traffic and also reduces congestion on city streets to that extent. But what has already been done in this phase of road-building is as nothing compared with the ambitious programs mapped out to take care of present traffic and that indicated a few years hence.

Grade Separation Projects Aid Speed and Safety

A growing interest in the building of highway grade separation projects, now undertaken in the vicinity of a few large cities where traffic on one main highway is passed over or under traffic on a cross main highway, indicates that a heavy expenditure will be necessary for such structures to insure speed with safety.

Projects to Relieve Traffic Congestion

Highway engineers and builders are agreed that provision must be made for pedestrians' sidewalks along heavily traveled trafficways through thickly settled urban areas and in rural sections where pedestrian traffic on the roadways is increasing. In the towns and cities, arcaded sidewalks, overhead pedestrian walkways, underground pedestrians' tunnels—projects necessitating heavy expenditures because of the many problems involved in their construction—now claim attention of city engineers and traffic experts. Traffic-control lighting systems, long used only in metropolitan centers are now essential even in small towns.

To relieve congestion, to make for safety in night driving and to encourage truck and bus operations at night and thus make roads render efficient service 24-hours, the lighting of main routes will undoubtedly be undertaken and this will naturally stimulate suburban development, rural electrification and other improvements. Lighted route markers and warning signs are needed on highways and on through routes in towns and cities.

Widespread Influence of Growth of Motor Transportation

A number of American cities have with success adopted "no parking" ordinances for restricted areas. That this plan will be adopted generally to speed up traffic in American cities seems obvious. Such laws have encouraged the building of parking garages. Indications are that many additional similar structures will be erected. Further extensive use of motor vehicles in business is indicated by the incorporation of parking space within modern office buildings. Some cities are providing plazas and special areas set aside for parking. Inability to load and unload passenger cars, buses and trucks expeditiously and without interfering with normal flow of traffic is having an influence on modern architecture, and basements of stores and business structures are being laid out to permit the discharge of passengers and goods under cover. Also bus terminals are being provided. But we have scarcely scratched the surface in providing such terminals with the result that accommodations are inadequate for even the present motorbus passenger traffic.

Airports Present New Problems

The construction of airports has presented a new problem to engineers and municipal authorities. Airplanes and motor vehicles alike are primarily valuable because of the time saved in travel. Only by providing through routes over which motor vehicles may operate at comparatively fast speeds with safety from airports to business centers can the new tool of transportation be most efficiently used. The highway builder is cooperating closely in the development of airports by properly laying out trafficways, and further by building runways and by properly grading and draining fields. Intermediate landing fields immediately adjacent to highways are also being established.

Built-in Safety Demanded

More and more the country is becoming safety-minded. In this connection, elimination of railroad grade crossings is one of the major problems confronted by highway builders. Much money is being and will be expended for such projects. Also, most highways built 10 years ago are now obsolete, for they were constructed with comparatively narrow widths, highly crowned, with sharp curves, too narrow rights of way and inadequate guard rails. They served well but they were built for slow-moving vehicles. Today we have altogether different conditions from even the recent past. Thus a big job faced by the highway builder is rebuilding to present day standards great mileages of our hard-surfaced state highways to withstand economically the onrush of large buses and heavily loaded trucks.

Year-Round Vehicle Usage Adds to Roads Burdens

With the more general year-round use of motor vehicles, new problems of maintenance have been introduced and road engineers find it necessary to allocate additional millions annually for keeping roads servicable throughout the year, maintaining them in a highly efficient manner and reducing detours to a minimum, removing snow and sleet promptly.

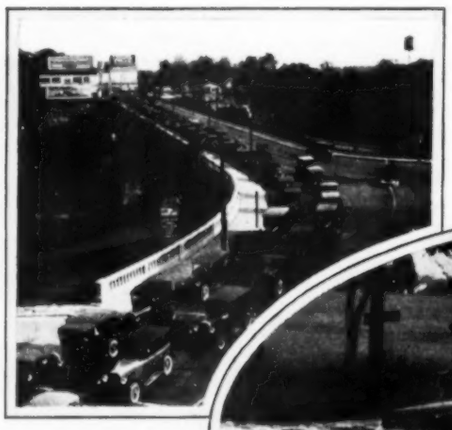
Beautification Sound Investment

What is more, there is an insistent demand for in-built beauty. Tourists in their trek back to nature want highway beautification. Such improvements are looked upon as sound investments, for highways have become more than something to ride on—they are recognized as a part of the landscape. So hand in hand with the work of builders of highways go the efforts of the landscape architects, foresters and city planners, to beautify the rights of way.

"TRAFFIC INDIGESTION"

An Outline of the Problem With Indications of What Is Being Done to Solve It

By
NORMAN DAMON,
Secretary, Committee on Measures for Relief of Traffic Congestion,
National Conference on Street and Highway Safety.



Above—Traffic on This Modern Structure in Washington Reaches Hourly Maximum of Over 2500 Vehicles.

Oval—That Motorists Do Respect the White Center Line Is Indicated in the Road Scene Pictured Here.

Efforts to Secure More Efficient Utilization of Existing Highway Facilities Are Being Made.

Proper Guide and Warning Signs Are Being Installed in Great Numbers to Insure Speed With Safety.

TOWN and city alike are today suffering from a common ailment which might be labeled traffic indigestion.

Chicago, for instance, will probably have more motor vehicles in 1930 than there were in use in the whole United States in 1910, when there were less than half a million vehicles registered. The figures mounted to 9,000,000 in 1920 and to probably better than 26,000,000 in 1929.

Congestion From Increase in Population and Motors

The amazing increase in urban use of motor vehicles indicates why the cities are faced with congestion, regardless of size.

There were 3,260,956 vehicles registered in 55 cities of more than 100,000 population on January 1, 1924. By January 1, 1928, this figure had risen to 5,570,386—a 70 per cent increase in five years.

For 30 cities between 50,000 and 100,000 population the figures for the same period were 330,000 and 560,015, respectively, and at the same rate of increase.

Towns and Cities Growing Up

The trend of population to the cities has intensified the problem. More than a quarter of the population of the United States live in the large cities. Slightly less than this ratio holds for motor registration or probably between 20 and 25 per cent of the vehicles are in this area.

Towns and cities are growing up and all too often fail to provide themselves with adequate clothing in the way of street and highway facilities.

CITY GROWTH

WHERE there were 38 cities with population in excess of 100,000 in 1920 there were more than 82 cities of this class in 1928. Concentration of population and motor vehicles, and the fact that street facilities have remained practically static are fundamental causes of congestion.

Thus, where there were 38 cities of more than 100,000 population in 1900, in 1920 there were 68, and based on Bureau of Census estimates of 1928 population there were 82 in that year, even after excluding some cities for which the Bureau makes no estimate, but which probably should be included.

No further evidence should be needed to convince anyone of the need for prompt action as otherwise the central area congestion problem simply spreads out farther and farther.

Early Problem One of Rural Roads

The demand for better city facilities for the utilization of the motor vehicle is increasing.

The earlier urge was for improvement of communication between cities.

Rural highway surfaced mileage has been striving to keep up with the pace set by motor registrations.

An ever-increasing improvement program is to a large extent meeting the demands of traffic for the necessary floor space for operation in contrast to the cities with fixed street areas. It is when the huge volume of traffic flowing over these roads begins to approach the urban centers that the symptoms of congestion are manifested. Or perhaps it is the other way around, as the city area spreads out and is occupied, congestion centers automatically follow.

The real road problem of today rests with the city. It suffers most from the lack of adequate road facilities.

City Traffic Predominates on Rural Highways

This is not to say that the city is not interested in the rural highways. Gov-

ernment surveys show city vehicles predominating on the main highways. For instance, in Pennsylvania nearly 95 per cent of the traffic was city owned vehicles; in Cook County, Illinois, 90 per cent; in Maine nearly 95 per cent; on the Bankhead highway 91 per cent; in Ohio 87.6 per cent.

Street Facilities Static

The seriousness of the situation lies in the fact that street facilities have remained practically static in the face of greatly intensified use from all agencies of surface transportation and from concentration of business and population.

Secretary of Commerce Lamont announces that 58 traffic and transportation surveys have been made in 43 representative cities in the last five years.

He also pointed out that the street and highway expenditures of cities is now approximately $600,000,000 a year.

$5,000,000,000 *Program in Next Decade*

At the very minimum then, the street and highway expenditure program of the cities during the course of the next decade will reach $5,000,000,000. Many cities are now budgeting this type of expenditure that far in advance.

Studies Being Made

The Secretary of Commerce appointed the Congestion Relief Committee as a part of the program of the National Conference on Street and Highway Safety in the interest of safety and efficiency in the utilization of all transportation.

Two means of achieving improvement were advocated by nationally known authorities at the first meeting of the Committee in October, 1929. First was stressed the need for immediate action in securing full and efficient utilization of existing facilities through laning, elimination of parking on the heavy thoroughfares, proper traffic control methods, segregation of traffic, etc.

Many Improvements Proposed to Care for Future Traffic

The other phase of betterment was indicated as the long time improvement program which would include street widenings, bridges and other structures, provision of off-street vehicle storage and loading facilities, separated roadways, and other engineering projects.

Economic Influences to be Considered

Economic factors which are tied in with the whole program of urban transportation will be studied.

Real estate values are shifting. The business man with a large investment in the downtown central business district is interested in knowing what the trend may be as a result of increasing city congestion. The merchant sees the tendency toward decentralization of retailing and the establishment of sub-centers of business. What will be the effect on the large centrally located business establishments?

Old Buildings Without Vehicle Space

Naturally the older residences and office buildings were built with no thought for garages or the storing of motor vehicles. This has concentrated all vehicles on the street surfaces or such vacant lots as might be available.

New trends are discernible in the equipping of large office buildings with garage space in the building. Department stores are providing similar facilities for their patrons, and are much concerned with the effect that parking restrictions may have on their business.

Parking Restrictions Being Watched

Experiments in the restriction or abolition of parking are being carefully watched. In one large city where the experiment has been under way for nearly two years with effective enforcement, the parking garage is being established on a large and profitable scale.

Vehicle Terminal Facilities Necessary

The provision of terminal facilities for the vehicle seems to be one of the principal concerns of city officials. Will the trend be to the privately owned and operated parking garage or other off-street facilities of this character, or is this a municipal obligation?

Regional Areas Offer Special Problem

A distinct problem in administration exists in the regional areas of traffic, on main routes coming under conflicting political jurisdictions.

The entirely rural highway carries its volume of traffic along smoothly and effectively, except for grade intersections, both highway and rail, and the occasional narrow bridge or roadway. Then as it approaches the city the gateway mileage may be under the jurisdiction of the state, the county, the township, or the city, or all of them. Recent developments in this direction are the creation of special authorities with control over the building and maintaining of the traffic arteries which connect the rural highway with the urban street.

Traffic Heavy at Gateways

Almost unbelievable volumes of traffic present themselves on these gateway arteries. Peak loads frequently result in breakdown of the facilities. Yet the peak load of today is quite likely to be the normal movement tomorrow.

Public Transportation Slowed

The increasing volume of surface transportation and the resulting congestion has had a marked effect in slowing down street car, bus, taxicab and other surface transportation movement. Traffic signal control system experiments in many cases have made matters worse temporarily, at least.

Financing One Phase of Problem

The question of where to find the funds for the provision of needed street and highway facilities is serious with nearly every municipality. Dr. J. Gordon McKay, Director of the Cleveland Highway Research Bureau, points out that Ohio has provided for state construction and maintenance of state highways, even where these pass through the larger cities.

That funds available to the cities through special motor vehicle tax apportionment may be applied in this direction rather than expended indiscriminately is indicated by Dr. McKay.

Committee Studying Question on Three Lines

Three lines of attack are being followed by the Committee in its study of the situation:

First, to locate the source of the difficulty and analyse it.

Second, prescribe the remedies to fit differing conditions, and

Third, to recommend the ways and means of putting these remedies into effect, which includes organization, administration and finance.

It is expected that the deliberations of this committee will result in concrete recommendations for action by urban officials.

Coincidentally, the appointment of traffic engineers in city after city, and the application of engineering methods in the search for facts on which to go forward indicates progress.

Model Municipal Ordinance Helping

Add to this the fact that the Model Municipal Traffic Ordinance is meeting with general acceptance. Then the American Engineering Council has worked out a uniform plan for street traffic signs, signals and markings.

However, both the program of immediate improvement and the long time plan require time and money. That city will indeed be fortunate that has competent engineering guidance and has the vision to build for the future, by providing the funds essential to an adequate program of street and highway facilities.

FACILITIES

WITHIN the next decade the cities and towns of the country will probably spend in excess of $5,000,000,000 in the provision and maintenance of street and highway facilities.

$5,000,000,000 Value of Output of Motor Vehicles and Allied Products in 1929

5,651,000 Vehicles Produced Last Year—26,400,000 Motor Vehicles in This Country, 76 Per Cent of World's Total

A total production of 5,651,000 motor vehicles with a wholesale value of $3,483,900,000 in 1929 is indicated by figures compiled by Alfred Reeves, General Manager of the National Automobile Chamber of Commerce.

In 1928 production totaled 4,630,000 motor vehicles and the wholesale value was $3,045,820,000 and in the preceding year 3,530,000 vehicles were produced with a total wholesale value of $2,556,750,000. One of the most significant figures for the year is the total of 1,015,000 American motor vehicles sold outside the United States, including exports and output of plants owned in Canada representing 18 per cent of the output of the country's automobile plants. The United States now has 76 per cent of the world's automobiles, the total registration of motor cars and trucks in this country being 26,400,000. Reports from the various states show a total of 23,030,000 passenger vehicles and 3,370,000 trucks registered. The world registration of motor vehicles is given as 34,700,000.

Closed cars made last year numbered 4,218,000, or 87 per cent of the total passenger cars produced. In 1928 closed cars produced comprised 85 per cent of the total output of passenger cars, compared with 80 per cent for the preceding year.

Motorbuses and trucks are being used in great numbers by steam and electric railways. In 1929, 300 street railways were operating 11,500 buses, compared with 365 steam railways using 9900 buses in the preceding year. Buses used by 70 steam railroads in 1929 numbered 1900, compared with 1250 used by 67 railroads in 1928. At the end of 1929, railways using motor trucks as part of their shipping service numbered 75. Motorbuses are being more widely utilized each year in transporting pupils of consolidated schools, 43,000 being used for this purpose in 1929. At the end of last year, motorbuses in use totaled 95,000, compared with 92,000 in use at the end of the preceding year.

In addition to the actual production of motor cars and trucks, there were manufactured 75,000,000 tires with a total wholesale value of $600,000,000, and parts, accessories and service equipment, amounting to more than $920,000,000, which, together with wholesale value of trucks and cars produced, gives a grand total of more than $5,000,000,000 and this represents only the wholesale value of the main products of the motor vehicle industry for a single year.

The number of persons employed in the automobile industry and allied lines totals about 4,300,000, compared with 4,110,000 persons so employed in 1928.

About 3,600,000 carloads of automotive freight were shipped over the country's railroads in 1929.

The automobile industry uses 85 per cent of the rubber imported, it also consumes 15 per cent of the copper and 19 per cent of the iron and steel turned out in this country. In 1929 cotton fabric used in producing tires alone totaled 287,000,000 pounds. Last year 297,000,000 barrels of gasoline were consumed by motor vehicles in this country. Over 80 per cent of the gasoline produced in the country was consumed by the motor industry. About 18 per cent of the country's hardwood lumber production was used by the automobile industry. The motor vehicle retail business in the United States comprises 56,300 automobile and truck dealers, 51,200 public garages, 95,800 service stations and 76,600 supply stores. Gasoline filling stations number 320,000 and there are 610,000 gasoline pumps in use.

Motor vehicle taxes in 1929 totaled $925,000,000, gasoline taxes alone amounting to $415,000,000.

Preliminary Facts of the Automobile Industry for 1929

PRODUCTION	
Cars and trucks produced in U. S. and Canada	5,651,000
Cars	4,846,000
Trucks	805,000
Production of closed cars	4,218,000
Per cent closed cars	87%
Wholesale value of cars	$2,952,900,000
Wholesale value of trucks	$531,000,000
Wholesale value of cars and trucks	$3,483,900,000
Average retail price of cars	$812
Average retail price of trucks	$877
Wholesale value of parts and accessories for replacements, also service equipment	$920,000,000
Tire production in U. S.	75,000,000
Wholesale value of rubber tires for replacement	$600,000,000
REGISTRATION	
Motor vehicles registered in U. S. (from state reports)	26,400,000
Motor cars	23,030,000
Motor trucks	3,370,000
Per cent gain in registration over 1928	8%
World registration of motor vehicles	34,700,000
Per cent of world's automobiles in U. S.	76%
Motor vehicle registration on farms	5,800,000
Miles of surfaced highway	660,000
Total miles of highways in U. S.	3,016,281
1929 highway and street expenditures	$2,000,000,000
Number of persons employed in motor vehicle and allied lines	4,300,000
Gasoline taxes	$415,000,000
Total taxes on motor vehicles	$925,000,000
AUTOMOBILE'S RELATION TO OTHER BUSINESS	
Number of carloads of automotive freight shipped over railroads in 1929	3,600,000
Rubber used by automobile industry	85%
Plate glass used by automobile industry	67%
Iron and steel used by automobile industry	19%
Copper used by automobile industry	15%
Lumber, hardwood used by automobile industry	18%
Lead used by automobile industry	27%
Gasoline consumption by motor industry	80%
Gasoline used by motor vehicles, 1929 (bbls. of 42 gal.)	297,000,000
Crude rubber used by motor industry, 1929 (lbs.)	913,920,000
Cotton fabric used in tires, 1929 (lbs.)	287,000,000
MOTOR TRUCK AND MOTORBUS USE	
Motor trucks in use	3,370,000
Motor truck owners	2,460,000
Motorbuses in use	95,000
Consolidated schools using motor transportation	16,500
Buses used by consolidated schools	43,000
Buses used by street railways	11,500
Buses used by steam railroads	1,900
Street railways using motorbuses	300
Steam railroads using motorbuses	70
Railroads using trucks as part of shipping service	75
Motor trucks used by steam railroads	7,000
FOREIGN SALES	
Number of American motor vehicles sold outside U. S. (U. S. exports and output in U. S. owned Canadian plants)	1,015,000
Value of motor vehicles, parts and tires sold outside U. S.	$757,400,000
Per cent increase in foreign sales over 1928	23%
Per cent sold outside U. S.	18%
Number of motor vehicles imported, 1929	710
MOTOR VEHICLE RETAIL BUSINESS IN U. S.	
Total car and truck dealers	56,300
Public garages	51,200
Service stations and repair shops	95,800
Supply Stores	76,600
Gasoline filling stations	320,000
Gasoline pumps in use	610,000

Greater Mileage of Paved Highways Nation's Acute Need

Motor Vehicle Registration and Usage Outstrips Road Construction Resulting in Traffic Congestion—Country's Mileage of First Class Pavements Averages But 2,000 Miles for Each State

By
E. E. DUFFY
Chicago, Ill.

IN discussing the highway problem there are so many items to be considered at the same time that it is difficult to get a complete picture.

The highway problem dissects itself into myriads of lesser problems and unfortunately some of them are being discussed pro and con without regard to the problem as a whole.

For instance, there is considerable talk about excessive gasoline taxation. There is no question but that the gasoline tax is somewhat of an annoyance, as is everything else that demands the extraction of money from pockets. But remove the gasoline tax, and what would we have? Simply a nation with a decidedly curtailed pavement construction program, and that right now would be ridiculous. Further be it remembered that, inasmuch as most pavements are being built through the gas tax, the payment of from two to six cents a gallon by the motorist brings him a reduction in car operating costs far in excess of the toll.

Comparatively Small Mileage Improved

Big figures are hard to digest. It is difficult to visualize 3,017,000 miles and the reader can be forgiven for passing that off with only a glance. But reducing this to smaller terms we find that this three million miles, the total road mileage of the United States, averages about 60,000 miles per state. Of the total mileage only about 300,000 miles have received appreciable attention, and of this there are only about 100,000 miles that can be called paved to the point where car operating expenses and road upkeep are reduced to a minimum.

Clearly there is a long way to go, with the first class pavement mileage averaging but 2,000 miles for each state. Several of the larger states, such as Illinois, New York, Pennsylvania, California and Texas have much more than that, but most of the states have far less, some scarcely any.

Earth Road in West Virginia

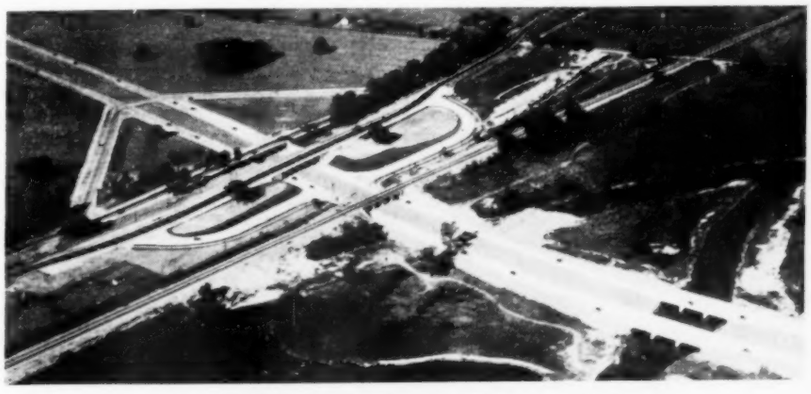
Registration and Usage Mounting

There is one certain factor to contend with and that is automobile registration and usage are increasing. At the beginning of 1928 there were 24,493,000 cars in service. Conservatively estimating the increase for 1929 at six per cent, there are now probably 26,000,000 vehicles on streets and highways. A few years ago John Motorist probably drove no further than 5,000 miles annually; today the average year's travel is near 10,000 miles.

It is a bit difficult to realize the present scope of commercial car usage. Three and a half million motor trucks are now busy carting goods about. An increase in truck shipping in metropolitan centers was of course to be expected, but few foresaw the eager adoption of the truck for rural usage. In 1928 about 12,200,000 cattle, hogs, and sheep were shipped to 17 markets by motor truck, a gain of 46 per cent over the previous year! Fruits, vegetables and other farm produce are now shipped to market in fast motor trucks, and where good roads have been provided marketing is done when prices are best. A poultry raiser in Minnesota reports that lessened shrinkage in weight of his shipments when hauled by truck almost pays for the truck operation. By all criteria, even greater commercial usage is to be made of the highways—and again the necessity grows for more paved roads.

Motorbuses now link the far corners of the United States. Transcontinental bus lines criss-cross the country. One line alone has more than 1,000 buses—some with sleeping accommodations — which touch some 14,000 towns. The saving effected by bus travel, and the prosperity of well managed bus companies also indicates further extension of bus systems — as good roads are built.

This tremendous motor usage analyzed together with the nation's annual



Costly Grade Separation Projects for Many Sections

In thickly populated areas structures are being built so that traffic on one busy highway may pass over or under another thus facilitating speed with safety. This is the Michigan-Southfield grade separation near Detroit.

A 36-foot concrete road built in Shelby County, Tenn., on the Memphis to Bristol route.

highway expenditure of a billion and a half brings forth the significant fact that nationally the actual road cost of motoring is no more than one half cent a mile. But this road cost is not all, for poor roads collect an appalling toll through excessive tire wear, gasoline consumption and so on.

Before looking at the brighter side of the picture, consider that this nation's skeletal system of highways, those highways embraced by the Federal Aid system, is still a long way from completion. The Federal Aid system, composed of the most used connecting links, has a total length of a little less than 189,000 miles. By the close of the last fiscal year 78,000 miles were initially improved or paved.

State Systems Carry Heavy Traffic

Digging into these highway mileages, and considering that 85 per cent of the nation's traffic is carried on the 300,000 miles constituting the state systems, which largely coincides with the Federal Aid system, the real job stands clearly outlined. It is this: The paving of approximately 200,000 miles of the most used roads and improving of that remaining vast mileage as conditions and finances warrant. But it is this 200,000 miles that must first be given attention, for in carrying the bulk of the traffic their future condition is to determine largely whether or not motoring is to be expensive or inexpensive to 85 out of every 100 motorists.

Currently, highway builders are adding about 10,000 miles of pavement yearly to the total mileage. At this rate it will be 20 years before the most used roads are paved. And in the meantime automobile registration and usage will have increased so that even this mileage would be inadequate.

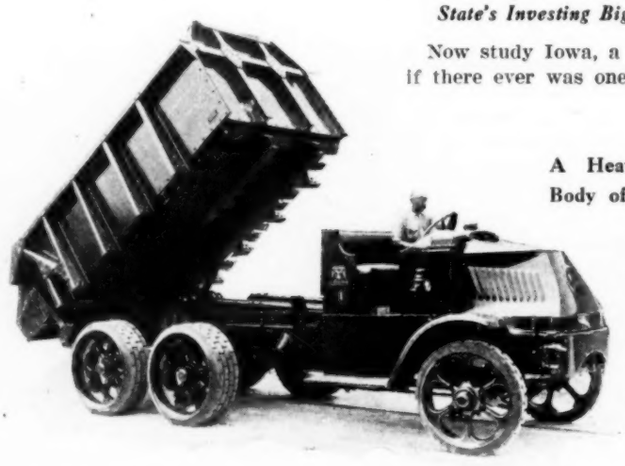
Clearly, highway building must be speeded up. But can this be done? Is the nation economically able to go ahead more rapidly?

The states, of course, are themselves doing the majority of roadbuilding, with Federal Aid helping to the extent of $75,000,000 annually. Therefore in order to determine whether or not the states can speed up their programs, the best evidence can be found by studying what certain states have been able to do.

There is North Carolina, which, largely through the medium of the bond issue, now possesses some 2,440 miles of concrete. The bond issues, financed through moderate vehicle taxes and a gasoline tax of four cents a gallon, are not only being easily retired but highway income has been so increased because of the good roads, that a surplus is left each year for the further extension of pavements. There is but one word that describes that change that has come over North Carolina since the "coming of the pavements," and that is "miraculous." North Carolina's big job is done.

State's Investing Big Sums in Roads

Now study Iowa, a "mud road state" if there ever was one. Through the issuance of county bonds, with the money turned over to the state, it will be but a few years until every county seat in Iowa will be connected by a pavement. Iowa now has 2,360 miles of concrete; five years ago she had but 536 miles.



A Heavy Duty Truck Body of Large Capacity

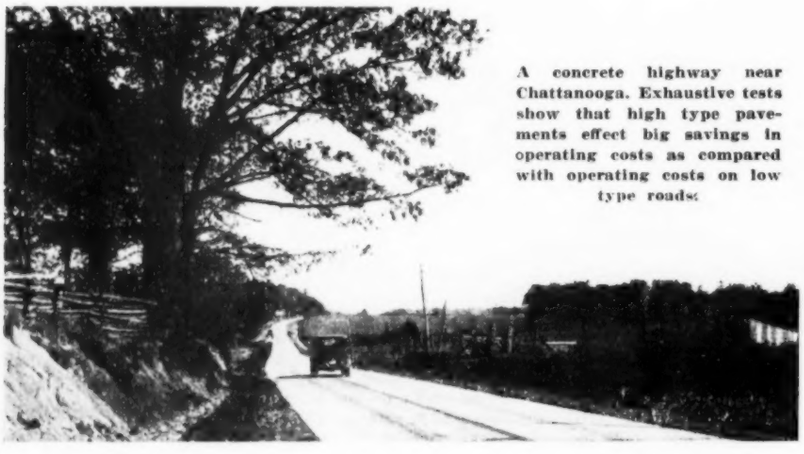
Built by the Easton Car & Manufacturing Company, Easton, Pa., on a Mack chassis for the Steelton plant of the Bethlehem Mines Corporation.

Maryland is listed among the smaller states. But Maryland has vision and courage. Starting the year with 1,500 miles of concrete, Maryland built 165 more last season. In addition she widened the shoulders of 140 miles of roads and completed or nearly completed 39 bridges and grade separations.

South Carolina has a $65,000,000 bond issue at her disposal. That state's immediate objective is the paving of 2,000 miles of roads—and if that state can do it there are many other states that are falling down on the job.

Favor Bond Plan of Financing

Other states, too, have made noteworthy pavement progress, enough so that it may be said that if all states could free themselves of political entanglements, and with a show of efficiency that marks private business, the solution



A concrete highway near Chattanooga. Exhaustive tests show that high type pavements effect big savings in operating costs as compared with operating costs on low type roads.

of the road problem would not appear as an unconquerable monster.

Perusing bond issue data, it requires no crystal gazing to foresee the future of that form of financing. Listen to the recent words of Thomas H. MacDonald, chief of the Bureau of Public Roads:

"There is not a single valid argument against the issuance of bonds for road improvement as a fiscal matter. It is possible for those seeking public office to secure votes against bonds by capitalizing old prejudices and the characteristic fear of debt. Certainly, in the face of the experience of the states which have made the most rapid progress in road improvement and which have advanced a part of the costs from bonds, there is not a single unfavorable situation or circumstance to support anti-bond arguments."

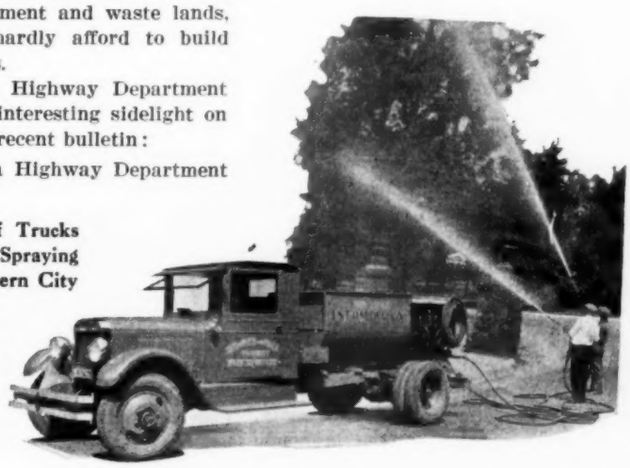
Problems Many and Varied

There are of course some states where peculiar circumstances practically forbid an increase in construction. The states in the West with vast areas of unpeopled government and waste lands, can, of course hardly afford to build trans-state routes.

The Minnesota Highway Department also presents an interesting sidelight on the problem in a recent bulletin:

"The Minnesota Highway Department will cooperate, as far as funds permit, in President Hoover's 'work and prosperity' movement, according to Commissioner C. M. Babcock. There will be $11,000,000 available for construction in 1930, he estimates, an increase of $2,000,000 over the 1929 construction budget, and contracts are being let so that work can start as soon as weather permits in the spring. If there is to be any further increase in construction, it can come only through increased Federal Aid."

Primary route through the scenic Ozark Mountains of Arkansas in Carroll County.



One of Fleet of Trucks Equipped for Spraying Trees in an Eastern City

Mounted on an Autocar chassis these units are equipped with 300-gallon tanks and 15 h. p. LeRoi engine.

Would Increase Federal Aid

Several plans for increasing Federal Aid are to be presented, so authority and rumor have it. One plan endorsed by the American Road Builders' Association calls for increasing the yearly contribution from $75,000,000 to $125,000,000. The Holaday bill, now pending before Congress, is illustrative of the attitude that must be taken if anything like immediate relief from high automobile operation costs is to be obtained. This bill, created by Arthur R. Hall, father of the bond issue plan which is so successful in Illinois, would provide for the building of a nationwide system of pavements by the Federal Government through the medium of United States bonds financed by vehicle and gasoline taxes. Consideration is also being given in other proposals to Federal operated toll express highways which would, through a few carefully selected transcontinental pavements, promote the unity and martial safety of the country.

Nation Awakening to Road Needs

These measures may fail but they are of inestimable importance in that they give proof that the absolute necessity of good highways is being recognized. Such suggestions will cause people to think and that is a step ahead, for after all, there has been but a quarter century of speedy, personal transportation, and many of us are still finding it difficult to shake off the influence of Dobbin.

Doing Without Improved Highways Exacts Heavy Toll

But the state and the local community should not wait for increased Federal Aid for highway building, for delay in improving roads collects a fearful toll from the motorist, who oftentimes little suspects how much cash the sly hands of dust, mud and friction are extracting from his pocket. Professor T. R. Agg of Iowa State College has research data and actual records to back up his statement that inferior roads cost the motorist from one to two and a half cents more a mile for travel than do first class pavements.

Automobiles capable of high speeds are without doubt here to stay, unless some faster means of transportation is developed. Laws cannot train man to be a better judge of speed or distance, and so long as inadequate highway facilities exist motor accidents will occur.

For most safe highway facilities there is a dollar and cents justification. Highway grade separations compensate for the cost where traffic is heavy. Pedestrian tunnels which permit foot traffic to pass safely under busy thoroughfares, also are economically feasible. The same is true of railroad crossing separations, of double deck highways, of wide streets and roads.

Asphaltic concrete highway near Troy, N. C. Well maintained grass shoulders prevent erosion and permit parking off the pavement.

Imperative Necessity for More Federal Aid in Road Building

By
HON. TASKER L. ODDIE
United States Senator
from Nevada

EVERY year sees an encouraging increase in the total mileage of our improved highways. The progress of new construction, reconstruction and betterment is proceeding at a reasonable rate, but the utilization—that is, the increased use of the highways by the motor vehicles already in service and by each year's new registrations—is proceeding at an even more rapid rate. In other words, we are not keeping pace in the improvement of our roads with the rapidly growing demand and are not supplying as full facilities in improved roadways over which to operate our more than 26,000,000 vehicles as fast as they are needed or as fast as it would be good business for this nation to provide.

In 1928 50,465 miles of road were improved with surfaces—by Federal, State and local agents. In 1921 41,171 miles were so improved. These figures include all types of surfacing. A considerable amount of the surfacing placed was for the betterment of old roads which had previously been improved to some degree, so that the net increase in surfaced mileage in 1928 was 37,416 miles as compared with 38,657 miles in 1927.

It will be necessary to continue on an increasing scale to strengthen and reconstruct the previously placed surfaces of the lighter and cheaper types of roads. This means that at the present rate of expenditures the number of miles of new construction which may be added each year to extend the mileage of year-round serviceable highways will decrease rather than increase.

Steady Increase in State Expenditures for Road Work

In 1921 expenditures by the States were more than $397,000,000. The States increased their expenditures year by year until for this year it is estimated the amount will be about $860,000,000. For 1921, expenditures by local organizations such as the county, township and other subdivisions of the State, were over $636,000,000. This has increased until expenditures for 1929 will be about the same as the State expenditures.

The support of the Federal Government is not, however, following the same advancing scale. In 1921 it paid to the States $88,000,000, and in 1925 this was increased to $92,000,000. In 1929, however, the actual payment by the Federal Government will drop to around $79,000,000, or $9,000,000 under 1921 figures.

The increase in the registration of motor vehicles, however, has shown a much larger percentage of growth than either state or local road expenditures. In 1921, there were registered 10,463,295 cars, including all types, and in 1929—8 years later—the total is about 26,500,000, or an increase of more than 250 per cent. This last figure should be kept in mind in discussing all matters of funds for road building and all matters of legislation relating to road construction.

Vehicle Usage Increases

But the increase in number of vehicles does not alone measure the growth of the problem, since there is a tendency for each vehicle to operate over a larger mileage—that is, the use of the motor vehicle by the public is increasing. This is partially due to the extension of serviceable highways and partially to the adjustment of our social and economic life to this mode of transportation. This adjustment is in some degree indicated by some of the conclusions reached in a recent bulletin relative to the "Relationships between Roads and Agriculture in New York," issued by Cornell University, which presents some of the economic and social changes taking place in the farming districts.

Equally important changes are taking place in the urban districts involving the more extensive use of highway transportation. There are broad changes involving distributions of manufacturing enterprises which take these out of the congested metropolitan areas to smaller communities. The development of faster, safer motor vehicles contributes materially to their longer average distance use. These observations are included only to indicate a few of the changes that are taking place revolving around the ability of the nation to supply and maintain serviceable year-round roads.

This development has been accomplished through the Federal-aid policy which was inaugurated in 1916 but which did not get under way on a large scale until 1920. The Federal Aid System consists of 190,000 miles of the principal traveled roads in the States. Of this whole system, there are 90,000 miles which have been or are now in the process of receiving at least the initial improvement. Of the more important items of this improvement there have been bridges built over major streams which, if placed end to end, would cover a distance of 267 miles. During the fiscal year ended July 1, 1929, 7,402 miles of road received initial improvement, and 1,988 miles were improved with an advanced stage of construction. This means that roads which had previously been graded and drained were surfaced with some type of material.

Great Mileage of Low Type Roads Big Problem

In addition to the work done with Federal-aid and State funds on this system, a considerable amount of work has been done with State funds alone so that it is now estimated that about 85 per cent of the whole Federal Aid System has received improvement in some degree. But much of this work is of the low type, which, to carry the ever increasing traffic, must be raised to higher types—that is, from sand-clay to the better types.

There has been a constant transfer of mileage from the local systems to the State systems. When the Federal-aid legislation was first passed the total mileage of roads included, with the State systems, about 200,000 miles or less. Much of this mileage was included in the Federal Aid System as first established but the States have continued to add to their State systems each year, so that now there has been more than a 50 per cent growth, or a total of 306,000 miles has been placed under the jurisdiction of the State highway departments. This mileage includes the Federal Aid System.

Of the more than 300,000 miles of State roads included in the State highway systems at the end of 1928, 193,000 miles have been surfaced, of which, 68,000 miles are of bituminous macadam or higher types. During the year 1928, 20,000 miles were surfaced, including 13,000 miles of new construction and about 7,000 miles of reconstruction.

Roads under the jurisdiction of local authorities, totaling over 2,700,000 miles and distinct from the State and Federal roads, have been surfaced to the extent of 433,000 miles at the end of 1928. Of these, about 34,000 miles were bituminous macadam or the better types of surfacing. The improvement of these local roads is proceeding at the rate of about 30,000 miles per annum, but this mileage does not average as high type as the improvements on the State road systems.

It will be evident from the above that

the principal roads of the nation are far from improved. On the State systems nearly 37 per cent is unsurfaced, 41 per cent is of low type surfacing, and only 22 per cent consists of bituminous macadam or the high types of roadways. Even important routes on the State systems still lack much work to complete them. It may be said that 66 per cent of the Federal Aid System and 78 per cent of the State systems are still in need of the type of improvement necessary to carry heavy traffic with that degree of economy which it is necessary to secure, unless the maintenance of this tremendous mileage of roads is to become a serious burden in the future.

Must Rebuild Big Mileage Hard-Surfaced Roads to Present Standards

There are many complaints as to congested highways and criticism is frequently made that roads built in previous years are not sufficiently wide or strong to meet present needs. This condition could hardly be otherwise than true when the 250 per cent increase in the number of vehicles operating upon the highways since 1921 is considered. However, congestion is due also to many other causes.

The transport survey in Ohio showed that the hourly peak of traffic was 216 per cent of the average hour, and in Pennsylvania showed the peak to be 202 per cent of the average hour. On Sundays in Ohio, the traffic is 156 per cent of the average week day; in Vermont, 152 per cent; in New Hampshire, 167 per cent, and in Pennsylvania about 170 per cent. There is a wide variation between the months of the year. In Ohio the peak month traffic was reached in August, where it was 148 per cent of the average month. All of these may be termed normal peaks and there are more infrequent occasions where the traffic runs far above the average or normal peak.

Important highways near large cities are carrying an increasing traffic which has already reached figures of high proportions. In Cuyahoga County, Ohio, at considerable distances from the center of the city of Cleveland, are roads carrying from 10,000 to 20,000 vehicles per day; 5,000 to 10,000 vehicles per day are frequent.

We do not seem to reach any end to the growth in the use of the highways, but there is a most important favorable condition in that the revenue from the motor vehicle in the way of motor vehicle licenses and gas taxes has shown a big increase. In 1921, the total net revenues, that is deducting cost of collection from gas taxes and motor vehicle registrations, were about $118,000,000. For last year it is estimated that the total revenues from these sources will reach $765,000,000. This large increase in the revenue derived from automobile traffic is not only a justification for the investment which has been made in our highway system but also provides a most important incentive for substantially increasing that investment at this time.

Urges Speed In Enacting Bills Providing $50,000,000 Additional Federal Aid Annually

Every indication points to the desirability of increased Federal participation, not only from the standpoint of the decrease in Federal payments which has been taking place as shown elsewhere in this article but because of the necessity for the nation to set a forward-looking example in dealing with this tremendous problem, and to help maintain a prosperous condition in the nation by speeding up construction activities.

It is, therefore, of the utmost importance that the companion bills introduced by Representative Cassius C. Dowell, of Iowa, and Senator Lawrence C. Phipps, of Colorado, providing for $50,000,000 per year in addition to the existing $75,000,000 per year for Federal Aid road work, be speedily enacted. This proposed legislation has met with the approval of the leading road associations, officials and authorities in the United States.

When the first Federal Aid Act was approved in 1916, Federal funds could only be used to the extent of a limitation of $10,000 per mile, or not to exceed 50 per cent of the cost. In later measures this was increased to $20,000, then decreased to $16,250, and finally still further decreased to $15,000 per mile, which is the present limitation. In the earlier years this limitation did not work so much to the disadvantage of improvement in the States but with the tremendous increase in the use of the highways it has become necessary, not only to build generally wider and heavier roads, but, in the case of important through roads, to widen what may be termed the usual two-way road to four-way, which means a roadway about 40 feet in width allowing 10 feet for each vehicle lane. Also there are many instances where in crossing swamps and in building through rugged or mountainous country the grading cost alone has taken almost the whole of the allowable Federal funds per mile.

Need for Increase In Federal Aid Allowance Per Mile

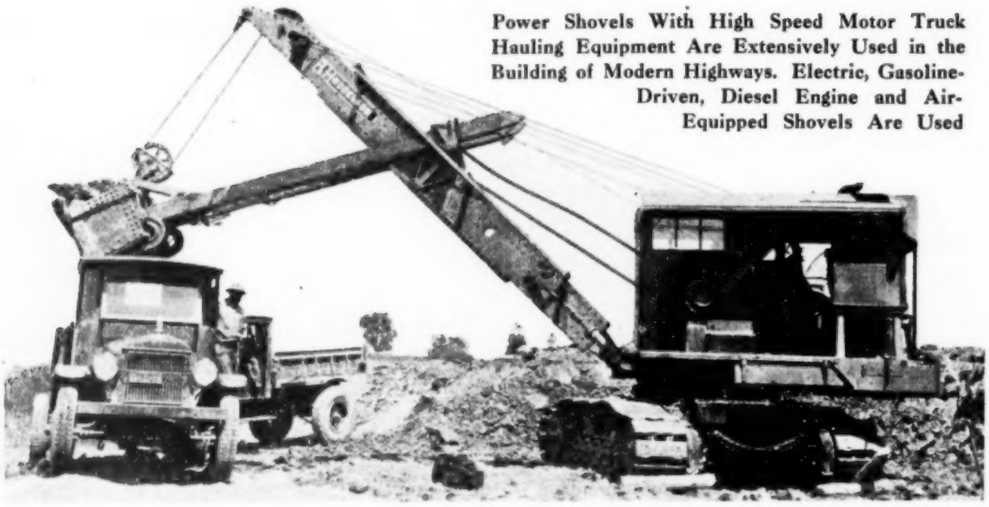
We have come now to the time when the most serious problem encountered in some of the States is the widening of the roads or surfacing those which have been previously prepared at a relatively high cost. While the Federal Highway Act contemplates that the Federal Government on Federal projects shall pay up to 50 per cent of the cost, on about 18,000 miles of high type pavement in the New England and Middle Atlantic States, the average participation has been only 33 per cent. In the State of New Jersey on 453 miles the average participation per mile has been about 29 per cent. In justice to the States which are facing the widening of their roads, or where the physical conditions require a heavy expenditure, provision ought to be made for an increase in Federal-aid per mile.

There is yet another problem which is of great concern to the western States. In the forest areas, which cover large sections of nearly all of the eleven so-called "Public-land States," there are about 12,000 miles of roads on the public road system lying within or adjacent to these forest areas. There has been some improvement by the States, counties and Federal Government on about 5,300 miles or around 46 per cent of this total. Nearly 33 per cent of this entire mileage lies upon our necessary links in the Federal-Aid system, about 37 per cent are important links in the State road systems, and the remaining 30 per cent are county or community roads. In these States the Federal-aid system totals about 33,000 miles and nearly 76 per cent has been improved to some degree, while on the 3,800 miles lying upon the Federal-aid system in the forest areas, about 73 per cent has been improved, indicating the necessity for larger Federal funds to take up the lag in the improvement of this system. To provide adequate highways on these important links demands increased Federal appropriations.

Need for Increased Expenditures for Roads in Forest Reserves

Representative Don B. Colton, of Utah, and I have introduced companion bills providing for increased appropriations for the Federal Aid Roads within the Forest Reserves. We have also introduced companion bills which provide for Government financing for construction and maintenance of such portions of the Federal Aid Road System as lie within the boundaries of the Government owned "Unappropriated Public Domain" and Indian Reservations in the Public Land States in the west, which lands contribute no tax income to these States. In order that the development of the Federal Aid System of roads throughout the whole country may uniformly progress, it is essential that these bills be enacted without delay.

The successful and efficient manner in which the Federal Aid road program has been conducted by the State highway departments and the Federal Bureau of Public Roads, under the able leadership of its Chief, Thomas H. MacDonald, is the best assurance that an enlarged program of national road construction will be successfully carried on.



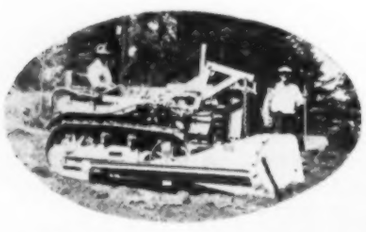
Power Shovels With High Speed Motor Truck Hauling Equipment Are Extensively Used in the Building of Modern Highways. Electric, Gasoline-Driven, Diesel Engine and Air-Equipped Shovels Are Used

Use of Mechanical Equipment in Highway Construction Work

By
T. W. ALLEN
Chief, Division of Management,
Bureau of Public Roads

AT PRESENT we have a total of some 3,100,000 miles of public roads and streets of which some 600,000 miles or about 20 per cent are improved with some form of surfacing, and are placing new and replacing worn out surfacing at the rate of approximately 50,000 miles a year. For the administration, control, maintenance and improvement of these highways we are expending annually a total of some $2,000,000,000. On these roads we now operate over 25,000,000 automobiles, motor trucks and motorbuses which travel annually a gross total of about 150,000,000,000 vehicle-miles.

These are no mean accomplishments and appear almost inconceivable when viewed against the background from which we really began to work two decades ago. Thus, in 1909 our total motor vehicles numbered about 312,000 and were practically all confined to our larger cities. Our total road and street mileage amounted to approximately 2,250,000 miles of which only a little more than 8 per cent was flattered with the name of being somewhat improved. Paved surfaces were practically unknown outside of the densely populated sections of our cities. The small amount of surfacing found on our rural roads was largely sand-clay and gravel with a much smaller amount of waterbound macadam and a mere beginning of other types. The finished product was to serve a horse-drawn traffic proceeding at a rate of 2 to 10 miles an hour and but rarely carrying loads exceeding 3 tons.



Paving Outfits Like This Pictured Here on the Gulf Coast Highway Near Pensacola, Fla., Speed Construction of the Nation's Highways.

A Bulldozer Operated by a Crawler - type Tractor Handling Material on the Dump

Costs were of course also vastly different but probably no more different than the work of that day was different from that of today. Of more recent years prices and wages have shown much less fluctuation. The following table shows the average rate of wages per hour for common labor, concrete mixer operators, power shovel operators and the bid price per square yard for cement concrete and per cubic yard for common excavation in the south Atlantic states on Federal-aid work for the years 1922 to 1928 inclusive:

	Average Wages Per Hour			Average Bid Prices	
Year	Common Labor dollars	Mixer Operator dollars	Shovel Operator dollars	Concrete Pavement per sq. yd. dollars	Common Excavation per cu. yd. dollars
1922	0.21	0.59	0.93	2.29	0.41
1923	.27	.53	.87	2.69	.51
1924	.28	.56	1.03	2.70	.44
1925	.27	.55	1.02	2.48	.49
1926	.29	.53	1.08	2.23	.38
1927	.28	.53	.88	2.16	.33
1928	.26	.59	.87	1.87	.37
1929*	.28	.60	.96	. . .	. .

* For first nine months.

These figures seem to indicate a practically constant rate for the wages of both common and skilled labor and a decreasing cost for both pavement and common excavation. Changes in specifications, methods, requirements, etc., have, however, been too great and too frequent to permit these figures to form any very reliable comparison as against prices and costs of two decades ago. They do, however, indicate that our present tremendous road-building activities are not of such extent as to boost prices.

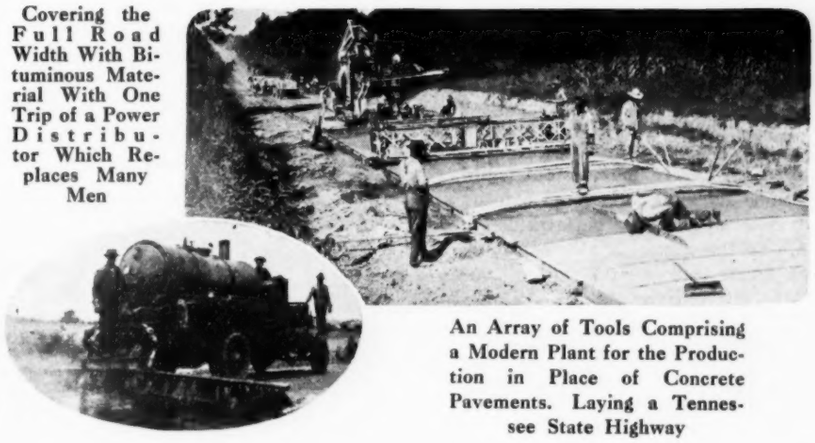
In the brief span of 20 years we have

thus been forced not only to develop and construct a highway system capable of carrying more than 80 times as many vehicles but to devise and build equipment to do it with. We have also been forced to learn how to use this new equipment economically and efficiently. To choose equipment to form a sturdy, reliable plant of properly balanced capacity—one suited to the work it is to perform and readily adaptable to efficient and economical operation—requires more than just plenty of cash or credit. It requires knowledge and experience gained only through a mastery of every detail of the work, both theoretical and practical. But the selection of the proper plant is only the beginning. Even a perfect plant will not produce adequate results without the application of real skill and ability in its operation.

The road builder of 20 years ago rarely had an investment in special equipment of more than five or six thousand dollars, and many but a few hundred dollars. Today the complete modern concrete paving outfit, for example, involves an investment of $50,000 to $75,000 and requires a working capital or credit of about an equal amount. Modern road building has become essentially a highly specialized manufacturing process, utilizing movable plants instead of established factories and delivering its product in permanent place on the road instead of delivering goods to the marts of trade.

Road Building Likened to Manufacturing

Most manufacturing work involves the successive repetition of a number of cycles of operation and the rate of production is largely dependent on how closely these various cycles are synchronized and how well coordinated are the various steps through which the materials are put in their passage through the factory. Something very similar is true for most lines of road work. Studies by the Bureau of Public Roads have shown that even some of our simplest present work such as road grading with a power shovel, involves not only a large number of repetitive operations the performance of which must be correct and snappy in every detail, but also several independent operations all of which must be well synchronized and properly coordinated in order to secure a reasonably high rate of production. Thus the dipper must be loaded, swung and spotted over the hauling unit, the load dumped and the dipper then returned for another load. From time to time the shovel must also be moved forward or maneuvered so as to keep it within digging reach of the material in which it is working. But, except when casting is possible, the shovel can dig only when and as hauling units are in place to receive the excavated material. Every interruption in the steady supply of hauling units in proper place at the shovel is therefore inevitably registered as a reduction in production. Furthermore, the hauling units can handle material no faster than it can be received at the dump. Consequently, each of these operations must not only be performed with proper speed and dispatch, but all of them must also be properly synchronized and coordinated in order for the grading outfit as a whole to obtain any reasonable degree of efficiency in its operation.



Covering the Full Road Width With Bituminous Material With One Trip of a Power Distributor Which Replaces Many Men

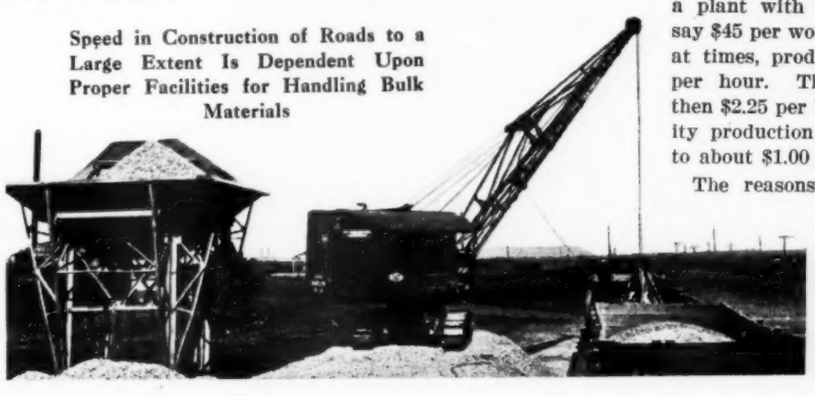
An Array of Tools Comprising a Modern Plant for the Production in Place of Concrete Pavements. Laying a Tennessee State Highway

Causes of Decreased Production

In certain lines of manufacturing work we have long known the importance of small time intervals; they are no less important in, for example, power shovel grading work. In common excavation a good power shovel operator can work steadily at the rate of a dipper load every 20 seconds or 180 dipper loads per hour. But suppose, as we frequently find in practice, that the operator drags just enough to add a second and a quarter to each of the four major operations of load, swing, dump and return, then the cycle is increased to 25 seconds and production is decreased to 144 dipper loads per hour. Here we have a reduction of 20 per cent in the rate of production, or 36 dipper loads per hour, simply because the operator is losing an average of 1¼ seconds on each major operation which he performs—a time interval so small as to defy definite detection by almost any means other than a stop-watch in the hands of a skilled observer. The grading slogan of 20 years ago "Get on the job and make the dirt fly" has thus been modernized into "Get on the job and watch the seconds or the profits will fly."

Now these small time losses, as well as those of longer duration, would not be so serious if the cost of operation could be made to vary with the rate of production. The studies made by the Bureau of Public Roads, however, show that the daily or hourly cost of operating almost any kind or type of our modern well equipped road-building outfits is practically the same whether production is at only a fraction of full capacity or at its maximum rate. It is, therefore, plain that the only way to decrease the cost of producing each unit of output is to increase the production. Thus in concrete road construction, for example, the operating cost of a modern outfit, exclusive of materials but including all labor, supplies, overhead and rental value of the equipment, is seldom less than $40 per actual working hour and may readily exceed $50 per working hour. But in the field we frequently find that a plant with an operating cost of say $45 per working hour is, at least at times, producing but 20 batches per hour. The operating cost is then $2.25 per batch, whereas capacity production would cut this cost to about $1.00 per batch.

The reasons why the hourly or daily operating costs are practically independent of the rate of production are, in the main, to be found in the nature of our mod-



Speed in Construction of Roads to a Large Extent Is Dependent Upon Proper Facilities for Handling Bulk Materials

ern highway plants. For example, in the modern concrete road-building plants the mixer is the key equipment. The specifications fix the time the batch must be held in the mixer. This, together with the time required to get the batch into the mixer drum and out again, absolutely fixes the maximum rate of production which can be attained. This rate of the mixer is also the determining factor in fixing the size and amount of the auxiliary or associated equipment. There is, therefore, every incentive for the selection of a coordinated outfit based on the maximum rate of the mixer. But this fixes the investment costs, interest, depreciation and much other of the overhead. Furthermore, the mixer, the finishing machine, the turntable, the roller, the tractors, the crane, and the batcher for any given job set-up require a fixed personnel, usually one man, to operate each no matter how large or how small is the paver nor how fast or how slow is the rate of production. Most of the other operations on the given job also require a fairly definite number of men regardless of how fast or slowly the job is working, so long as it is working at all. Even if a slow instead of capacity rate should be accepted by the contractor for steady operation, the possible reduction in wages and supplies would be insignificant in comparison with increase in the unit costs. Most of the contractor's overhead costs and expenses for any given outfit thus accumulate on a straight time basis without any regard to rates of production. Even depreciation in highway equipment is dependent so largely on obsolescence that a slower rate could not be credited with any smaller hourly depreciation rate.

"Wood" Excavator—a Heavy Duty Machine for Road Work

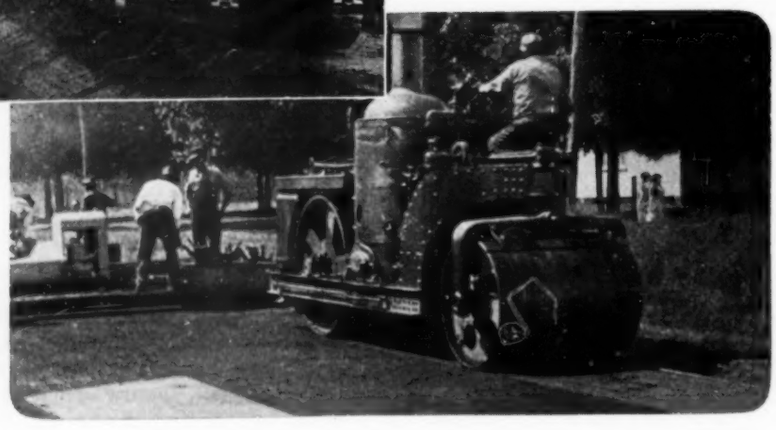
This big unit is towed by a heavy duty tractor and loads into wagons or trucks moving directly alongside of it

Difficulties Encountered in Keeping Road-Building Plants Continuously Producing

Let us now turn for a moment to examine the difficulties most frequently encountered by the contractor in trying to attain a profitable rate of production from modern highway construction plants. Here, again, the studies made by the Bureau of Public Roads point the way. These start from the self-evident fact that in construction work time can yield no production unless it is gainfully utilized. Stops or delays are therefore to be guarded against, especially in so far as they tend to affect the key equipment. Definite stops involving long intervals are, of course, fully apparent and every contractor makes efforts to prevent their occurrence or recurrence. But the minor repetitive time losses involving only seconds are not so apparent and, in fact, are usually unknown to the management. And yet on the average road job, as determined from studies on many hundred going projects, the minor time losses consume from 20 to 50 per cent of the total time the crew is at work. Furthermore definite stops each of 15 minutes to a day or more in duration consume from 25 to 50 per cent of the otherwise available calendar days. In other words, on the average modern road construction job, in the neighborhood of one-half of the theoretically available calendar working time is a total loss in so far as any useful production is concerned.

A Heavy Blade Grader Drawn by a 10-ton Crawler-type Tractor Engaged on Heavy Maintenance Work

Below—Finishing a Rock Asphalt Pavement With a Power Machine. The Road Roller Follows Immediately After the Spreading Operation Is Finished



As an illustration of the time losses, which afflict the average concrete paving outfit the following tables have been prepared as a summary of the records of nearly 100 going projects:

Average Time Losses on Concrete Paving Jobs

Cause	Definite Stops Each 15 min. or more in duration Per Cent
Rain	9½
Wet Subgrade	8
Lack of prepared subgrade	3
Lack of materials	3½
Moving plant set-up	3½
Inadequate supply and faulty operation of hauling equipment	3
Mixer trouble	2
Lack of water at mixer	2
Loading plant trouble	1½
Miscellaneous causes	4
Total	40

Power Tools in Heavy Grading Work

Trucks, power shovels, air hammers, tractors and a variety of equipment facilitate moving rock and big yardages of earth

Cause	Interruptions to Production, Each less than 15 min. Per Cent
Supply and operation of hauling equipment	7½
Water at mixer	2
Lack of materials and supplies	1½
Mixer trouble	1
Mixer operator	1
Finishing	½
Subgrade delays	1½
Miscellaneous causes	1
Total	16

In other words the average concrete road paving contractor is not able to be out on the road and at work with his crew more than about 60 per cent of the available calendar hours after he has secured his contract and moved his equipment on to the job. Furthermore, during the hours his crew is out on the job he is only able to operate at about 74 per cent of the rate which his key equipment is capable of maintaining.

But highly specialized plant equipment, properly coordinated and capable of efficient and economical operation is of little or no value until it is placed in the hands of able management. In the hands of poor management the large modern road building plant offers what is probably the quickest known short cut to bankruptcy.

Managerial Task a Big One

The job of the management is to determine the most economical rate of production for the outfit in question and then constantly strive to attain this rate. This is no easy task. The personnel must be trained as to both individual performance and to effective team work. Materials must be provided and scheduled as to the rate and time at which they will be needed. The various operations must be coordinated and synchronized so as to reduce time losses and interruptions to the very minimum. If a concrete mixer has a capacity for laying 200 square yards of pavement per hour, then every other operation must be geared to this rate. The hauling equipment and batcher plant must be so operated as to supply this amount of material in a regular, steady stream. The subgrade must be prepared and the forms set at least at this rate. The finishing must not be allowed to fall below this rate. Water must be supplied at the rate required for mixing and sprinkling. Dowel bars, reinforcing steel and material for joints must be supplied and placed at a rate which will permit no interference with the steady continuous rate of operation which the mixer is capable of maintaining.

To accomplish this is one of the first and main tasks of construction management. But it can be, and is being done. It requires the exercise of forethought, vigilance and careful planning of all details. Nothing is so small or trifling that it can be safely neglected or left to chance. The lack of dowel bars when they are needed can hold up production just as effectively as the lack of cement, and unfortunately the delay from the first cause is just as costly as from the second.

Rate of Production Determines Road Costs

With the mechanization of our road construction work, costs have come to depend largely on the rate of production which the given outfit succeeds in maintaining. This fact is, as yet, not fully appreciated by either the road builders or the road users. Both, as a matter of fact, should be vitally interested. For the cost of our roads to the tax-payer eventually bears a close ratio to what it costs our road contractors to build them. And costs to the contractor depend on the ratio which he can maintain between his actual production and the rate at which his plant, if properly balanced, is capable of producing. Our immediate problem therefore is not so much one of new or enlarged equipment as one of developing such managerial ability as will make the most effective use of our present equipment.

A One-man Power Grader—One of the Many New Types of Machines Which Have Been Designed for Road Construction and Maintenance

Below—Placing Gravel Surfacing Material on an Alabama Road and Distributing by Hand Labor

Motor Truck Production Increases 40 Per Cent Over 1928

1929 Foreign Sales of Commercial Vehicles Gain 65 Per Cent Over Preceding Year—Domestic Demand Strong, Especially From Shippers—Steam Railroads Use Trucks Extensively—11,500 Buses Used for City Transit

By
A. J. BROSSEAU
Vice President, Commercial Car Division, National Automobile Chamber of Commerce
President, Mack Trucks, Inc.

AGAIN in 1929 production of motor trucks established a new record, amounting to 805,000 as compared with a previous high in 1928 of 576,551, constituting a gain of 40 per cent.

Light trucks fared particularly well, vehicles of one ton and under accounting for over 75 per cent of the total production. Demand for heavier trucks from shippers moving bulk commodities and from truck haulers continued its normal growth, indicating the dependence of industry and commerce upon efficient and elastic transportation in the short haul field.

Sales Abroad Up 65 Per Cent

The most important factor in the growth of truck use was in foreign countries. Sales of trucks in foreign countries increased from 209,560 in 1928 to 345,000, or 65 per cent. American trucks are moving the world's freight in every country and the demand for them is growing at a pace exceeding by far the growing desire for American automobiles abroad. While a good many commercial vehicles are absorbed in Europe, they have become a necessity in other countries where rail transportation is not widely available. Rapid expansion in truck use may be expected for a number of years in Australia, South America, China, India, South Africa and other sections.

Truck Operations Stabilized

Motor trucks have been used in large numbers only since the World War and during the past ten years there has been some competition between motor trucks and rail lines involving duplication of service and some economic waste through process of trial and error. During the past ten years and while trucks in use have increased from several hundreds of thousands to 3,370,000 the field of truck use has become reasonably well stabilized. More than 70 per cent of truck shipments travel a distance of 30 miles or less. Use of trucks for long hauls, except in cases of special commodities such as furniture, silk, etc., is uneconomic; and very little of it is done.

7,000 Used by Railroads

Ever since the superiority of the truck in the short haul field has been apparent, leading steam railroads of the country have been studying methods of adapting it to their transportation needs in order to save millions of dollars in the unprofitable short haul railroad field. Substantial increases in the number of trucks used by railroads for this purpose have been made during the year. Over seven thousand trucks are today employed by railroads to eliminate costly use of trains in terminal areas and for the short haul. Especially significant was the decision of the Omaha railroad to establish the first large scale railroad truck transport line, which since September 1 has hauled freight to more than two hundred Minnesota and South Dakota cities and towns. The Omaha road bought out the Wilson Transportation Company which had pioneered this truck freight development. According to Carl R. Gray, Jr., General Manager of the Omaha road, the venture has proven successful in the early months of its control. Mr. Gray predicts that "other railroads will be forced to follow our footsteps if they expect to survive."

Equally important has been the consummation of a merger of the leading transcontinental bus systems of the country together with their large subsidiary local feeder lines. This merger was completed under railroad leadership and a number of important railroads now control, through this vast organization, a large percentage of the best bus lines of the country.

Buses for City Transit

Continued increases in bus use by street railways result in their ownership of 11,500 vehicles at present. As street railway equipment wears out and rail replacement becomes necessary, thin traffic lines whose former patrons now use automobiles, are being abandoned and many such routes are now served by buses. As cities grow, buses are used almost exclusively to provide transportation to newly developed areas. In other instances where traffic congestion is severe, street cars which are confined to tracks and make such slow headway that they cannot earn profits are being replaced by buses which weave in and out of the flow of modern motor traffic, and discharge and pick up their passengers at the curb.

Shippers Use 82 Per Cent of Trucks

The record expansion of motor trucks used in 1929 is attributable to the intimate relation between these vehicles and every form of industrial business and commercial activity in the country. The truck is the only freight transportation tool completely responsive to the requirements of shippers, who own 82 per cent of all commercial vehicles. This flexibility of transportation has been a paramount factor in speeding up distribution, reducing inventory, eliminating lost time and cutting down interest charges during the process of converting materials into goods and distributing these goods to purchasers.

Now that the public has thoroughly learned the truck's advantages in these respects, still greater expansion in truck use may be expected in 1930.

Semi-Trailer With Capacity of One Freight Car Load

The contents of an average 12-room house may be moved in this Warner trailer, pulled by an Autocar tractor. The van measures about 30 ft. by 8 ft. by 8 ft. and has a gross load capacity of 40,000 pounds.

Federal Regulation of Interstate Motor Carriers

By
S. A. MARKEL
National Association of Motor Bus Operators

NO AGENCY of public service has so captivated public attention and patronage, nor engaged the attention of state regulatory officials and raised as many legal problems in so short a space of time as has the motor common carrier.

With only a few years' development, we find upon our highways more than 90,000 vehicles used in public passenger transportation, operating over more than 700,000 miles of route, transporting nearly two billion passengers annually, with a gross annual revenue of nearly $400,000,000 and with a total investment of more than $500,000,000. About 40,000 of these buses operate over regular schedule, the remainder being used as school buses, sight-seeing buses, and similar miscellaneous service.

It was but natural that an industry which reached the proportions of the motor carrier, with its diversified public service, should not only make its impress upon our social structures, but should also occasion many public problems, not the least of which is the matter of regulation in the public interest.

Unlike the older carriers, the steam and electric railroads, which operate over their private rights of way, the motor common carrier traverses public highways which are owned in common by all of the people. In addition to this, the motor carrier, in many cases, operates from state to state and, when crossing the various state boundaries, becomes engaged in interstate commerce. It is but natural that these circumstances should create many problems which will press for attention.

The privilege or justification for the use of the highways, the proper tax which should be paid for such use, the safety of operation and the regulation of these vehicles, both intrastate and interstate, are matters of great public concern.

With the advent and growth of this business, the respective states, through their Public Utilities Commissions, proceeded to regulate the carriers and to date there are 45 states which have enacted regulatory laws and are regulating these carriers and their service.

For a number of years it had been assumed that the respective states did have a right to regulate motor vehicles within their confines, even though in interstate commerce, until such time as the Federal Government may occupy the field through Congressional action. Following this principle, the various states required that all motor vehicles be registered and a state license tag be acquired, which was upheld by the United States Supreme Court in the cases of Hendricks vs. Maryland (235 U. S. 610) and Kane vs. New Jersey (242 U. S. 160). In both of the above cases, however, the United States Supreme Court held that the requirement of registration and license fees was not an unreasonable burden upon interstate commerce and that such requirement was within the police power of the respective states.

Hence, the various states assumed to

Type of Equipment Used by R. F. & P. Railroad Co., Between Washington and Richmond, Va.

control within their boundaries interstate commerce as well as intrastate commerce, by requiring all motor common carriers to apply for a certificate of public convenience and necessity and to pay the required tax, and otherwise subject themselves to the regulation of the State Commissions. Such authority by State Commissions was usually upheld by the State Court and the Lower Federal Court (Northern Pacific Railway Company vs. Schoenfeldt, 213 Pac. 26 Supreme Court of Washington; Gizzarelli vs. Presbey, 117 Atl. 359, Supreme Court of Rhode Island; State Ex. Rel. Schmidt vs. Department of Public Works, 213 Pac. 31, Supreme Court of Washington, and others).

Important Court Decisions

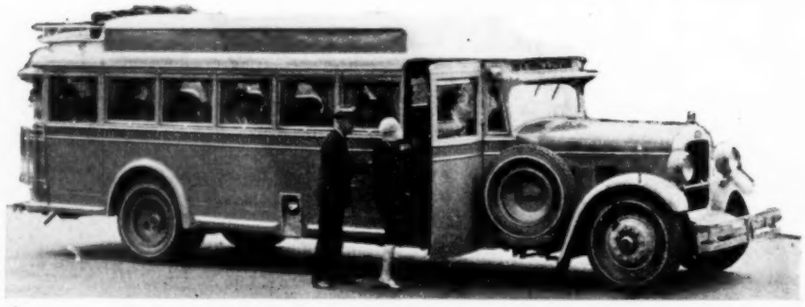
On March 2, 1925, two decisions were handed down by the United States Supreme Court, one involving a statute of the State of Washington and the other involving a statute of the State of Maryland and, in both of these cases, the United States Supreme Court held that it was an unreasonable burden upon interstate commerce for a State Commission to deny a certificate to an interstate operator who had otherwise complied with the law, upon the grounds that public convenience and necessity did not warrant such operation. (Buck vs. Kuykendall, 267, U. S., 307, and Bush and Sons Co., vs. Maloy, 267 U. S., 317). The effect of these decisions was to end the exercise of power by state authority, so far as restriction of the operation of motor vehicles interstate was concerned. It did not, of course, void the police power of a state to regulate in the interest of public safety, etc., nor did it in any manner affect wholly intrastate operation. A number of states, even following this decision, required all interstate carriers to comply with all of the reasonable regulations of the state, even though they were estopped from denying a certificate to operate. (The Cannon Ball Transportation Company vs. Public Utilities Commission of Ohio, No. 19327, decided December 1, 1925, and others).

The effect of these decisions, however, was to create a condition of chaos in the operation of motor carriers interstate. It was no longer necessary to prove public convenience and necessity for an operator to occupy the highway in interstate commerce, as he merely had to comply with the police regulations. This not only resulted in a duplication of service and in unwarranted use of the highways in many cases, but it resulted in a lowering of efficiency and safety, and in many cases permitted operation by those whose moral and financial standing would have otherwise justified denial of certificate by regulatory authorities. Occupancy of the highways became a matter of choice and not one of public convenience and necessity.

To correct these conditions, the National Association of Railroad and Utilities Commissioners (composed of State Commissioners) appointed a committee to draft a bill for presentation to Congress which, under the Federal Constitution, has the sole power to regulate interstate commerce. Like committees were appointed by the National Association of Motor Bus Operators, the American Railway Association, the American Electric Railway Association, the National Automobile Chamber of Commerce, the Short Line Railroad Association, and others, with the result that, after many conferences, a bill was drafted, with the approval of the various groups, and introduced in the first session of the Sixty-Ninth Congress on December 16, 1925, by the late Senator Cummins in the Senate and by Congressman Parker in the House.

Proposed Legislation Discussed

This proposed legislation provided for the use of State commissions as agencies of the Federal Goverment in such regulation, in so far as may be constitution-



The Ohio Valley Electric Company, Huntington, W. Va., Operates Buses Between Huntington and Columbus, Ohio, A Run of 150-Miles

Studebaker Traveling Service School Bus

One of two such buses traveling from dealer to dealer to supply the latest methods and information for the servicing of cars. The buses are completely equipped with tools and machinery permitting a complete demonstration

Highway Builders Play Important Role In Building Airports

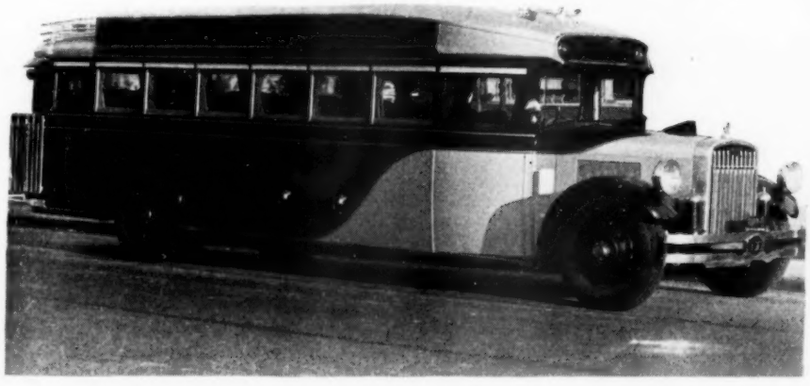
Engineers and road builders are cooperating with air field designers in constructing roads to business centers and in laying out runways

ally possible. The proposal was a departure from precedent and was new. The public was unacquainted with the problems except for their general knowledge that something should be done. It was fully recognized that it would require time and patience and educational work to bring about this legislation. For this reason principally, no action has been taken by Congress to date, although there is now pending before the United States Senate a similar bill, with some changes, which was introduced by Senator Couzens, of Michigan, and also a similar bill pending in the House, introduced by Congressman Parker, of New York.

This Smooth Riding 6-Cylinder 3-Ton Autocar Truck Provides Space for 7 Cows

Congressional Action Hoped For

With the increase of public demand for transportation, and with the continuous growth of motor transport and long since recognized that they must view all of their problems in the public interest. The convenience and necessity of their service is attested by the fact that nearly two billion passengers are served by them annually. While they ownership in our highways cannot enjoy the use of them except through the medium of the public motor car. These citizens have, of course, the same rights and privileges as the more fortunate ones who own motor cars.



Many Similiar Buses Now Operate in Regular Service Over Our Highways

An A. C. F. 34-passenger P-45 motor coach, powered by a 175 horsepower Hall-Scott engine. Recently observation type buses and buses with complete kitchen and berths have been put in use on long distance routes in various parts of the country

Therefore, the service of these motor carriers is important to the public. It is important also that such service shall be maintained at its highest efficiency, and this cannot be done with unjustified and unregulated competition, nor should the public be denied a remedy for the lack of safety and dependability of some carriers, although in the minority, who have no conception of public duty or service. The only remedy for the public, of course, in so far as it applies to interstate commerce, is by Federal regulation.

How Proposed Plan Works

The bills before Congress propose to grant to State utility commissioners power to hear and determine whether or not the public convenience and necessity require the granting of a certificate to motor common carriers to operate over the highways in interstate commerce, to regulate in general their relationship with the public and to govern the safety and dependability of their service. In order to avoid a multiplicity of hearings, each state commission would be empowered to appoint a representative from the state affected by any application and these representatives would sit as a joint board and determine the matter, with the right of appeal to the Interstate Commerce Commission.

This would practically give State Commissions control, and since the motor carriers have been regulated by the respective states for a number of years, they are eminently equipped to handle the situation including local problems without the necessity and expense to the operators or the public of traveling to distant points for hearings. The rules and regulations under the proposed bill would be promulgated by the Interstate Commerce Commission and would be uniformly applied by all state commissions. The purpose, of course, is to render to the public safe and dependable service at reasonable rates with convenient schedules.

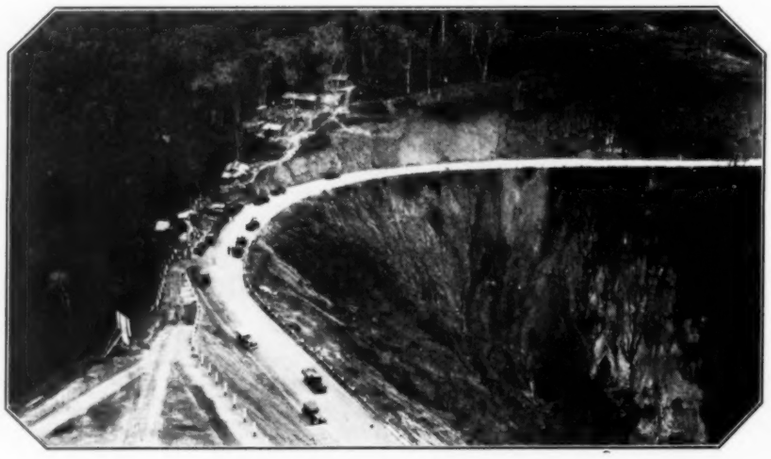
with the major problems of safety, dependability and service, it is confidently hoped that the present session of Congress will not adjourn before enacting some legislation of the type proposed, particularly since the bill in principle also has the approval of the Interstate Commerce Commission, which has thoroughly investigated the subject. These bills, however, have to do only with the regulation of passenger carriers, as it was found practically impossible at this stage of the development to regulate the activities of the merchandise hauler.

The motor carriers of the country have use the public highways, yet they pay an adequate tax, averaging from $200 to more than $1,000 a vehicle, or a national average of over $500 per vehicle. They are glad to pay their just proportion of taxes for the maintenance and use of highways. It must be remembered, however, that their highway occupancy is in common with all other users and since the highways are owned by all of the people and since privately owned motor vehicles afford transportation to only about 30 per cent of our national population, it is then apparent that the 70 per cent of our people who have joint

One Of Fleet Of White Buses Operated By Cotton Belt Railroad

American Construction Methods Influence Highway Building Throughout the World

International Road Congress to Meet in United States Next Fall, With Representation From Western Europe, Russia, Australia, Africa, Latin America and the Orient



Central and South American Countries Are Building Modern Highways

View of New Highway Between Rio de Janeiro and Sao Paulo, Brazil

By
PYKE JOHNSON,
National Automobile Chamber of Commerce, Washington, D. C.

OUT of the ever increasing demand for improved highways in all parts of the world, there has been growing up in recent years, a new field of service for the American highway engineer—that of Ambassador Extraordinary to other nations on road matters.

From the beginning of his work, the modern highway administrator has never been able to confine himself to the technical aspects of his job. Modern life is so intimately affected by road improvement that he has had to familiarize himself with the economic and social problems dependent upon highway development and from these questions it has been but a step to the intricate problems of finance and regulation.

Now his field is broadening. From all parts of the globe, requests for information are pouring into the office of the Bureau of Public Roads at Washington asking for data on this and that question and in the past few years there has scarcely been an interval when there have not been representatives from one or more foreign countries in the United States inspecting our roads and delving into the effects of highway transport upon our standards.

Concurrently with this demand, there has grown up a series of regional or world conferences on road matters held at the official call of governments intent upon securing the best and latest information respecting highway practices. Always there is a pressing invitation for the United States to be represented and Congress has responded by sending picked men, conversant with all of the phases of highway development.

Engineers, business men, educators, members of Congress, have been appointed to these missions and it is a fact which should not escape the attention of students of international relations, that regardless of disputes about tariffs, limitations of armaments and other vexatious world problems, when men get together to consider road building, a common interest is disclosed which blots out differences of race and language alike.

Whatever the politicians may be discussing, the peoples of the world are intent upon becoming better acquainted with their neighbors whether they live in the next town or in the next country. They want to travel. The motor vehicle affords them the opportunity if there is a road for it to move over.

Hearty Reception Accorded American Highway Engineer Everywhere

The net result is that the American engineer with his background of practical experience and accomplishment is welcomed wherever he goes and, consciously or otherwise, his readiness to ad-

An Improved Highway Through the Nitrate Fields of the Chilean Desert Between Antofagasta and Chuquicamata

A Heavily Travelled Road From Guilford to Aldershot, England

vise, his frank criticism and suggestions are performing a large service in correcting the comic-picture views held of Americans in many lands.

For these reasons and many others, the Sixth Session of the Permanent Association of International Road Congresses which will be held at Washington, D. C., October 6 to 13, 1930, may reasonably be looked upon as an occasion of far more than the technical importance which the coming together of world highway authorities would naturally assume. And for these reasons, it may be expected that not alone will the Congress attract the largest attendance ever drawn to such a session, but that every possible effort will be made by our government and by those interested in highways to make the event useful to those who attend.

Briefly, the International Road Congresses were organized in 1908 and since that time with interruptions during the World War, sessions have been held at Paris, Brussels, Seville and Milan. Virtually all of the nations of the world hold memberships in the body by official action of their governments and usually they are represented by their chief highway authorities. The purpose of the organization is to bring highway engineers together, to give them a chance to compare notes and to discuss trends and developments in the highway field.

The United States did not join the Congress until 1926 when an official delegation represented this country at Milan but immediately upon joining an invitation was extended to the organization by President Coolidge to hold the next sessions here. It is evidence of the world interest in roads as developed here that that invitation was accepted unanimously by the delegates and that already many of the governments have officially notified our Department of State of their intention to send representatives.

In preparation for the event, Secretary of State Stimson has named a strong American Organizing Commission, headed by Roy D. Chapin of the National Automobile Chamber of Commerce, with Thomas H. MacDonald, chief of the United States Bureau of Public Roads, as Secretary General in charge of the technical side of the program. Back of these men stands a board which comprises representatives of the Departments of State and Commerce, the American Association of State Highway Officials, the American Automobile Association, the American Road Builders Association, the Chamber of Commerce of the United States and the Highway Education Board as the official and private groups most directly interested.

An honorary commission now in process of formation and a list of patrons made up of all of the national organizations having any interest in highways will complete the list of active participants in preparations.

Success of Road Tours

Going back for a moment over ground which has already been covered at different times by writers in the MANUFACTURERS RECORD, in 1924 at the suggestion of the then Assistant Secretary of Commerce, J. Walter Drake, later chairman of the Second Pan American Congress of Highways delegation, industry joined with our government officials in inviting a group of Latin American engineers to come to this country to see our roads. The success of this tour was so great, as demonstrated by the influence exerted by these engineers on road building in South and Central America, that a similar procedure on a much larger scale has been worked out in a tentative way for the Sixth International Congress.

This time three tours will be held, each carefully worked out to present different sets of highway conditions.

The first of these will carry a party from Washington through Virginia, North and South Carolina, Georgia and on into Florida, where engineers from tropical and semi-tropical countries may have an opportunity to see how roads have been worked out under these conditions here.

The second tour will be through the middle west where engineers have to contend with frost, soil of high capillary content, and agricultural traffic.

The third tour will be routed through New York and New England and thence to Detroit and will present highway de-

The Autostrada in Italy Is a High Speed Toll Highway of Modern Construction

All Railway Grade Crossings Are Eliminated and Watchmen Control Traffic Entering From Side Roads

velopment in an area of large population and heavy traffic.

As in 1924 the tour will be held under the supervision of the Highway Education Board, acting in cooperation with the American Association of Highway Officials. This Board has as its Chairman, Thomas H. MacDonald, Chief of the Bureau of Public Roads, and consists of representatives from the Departments of State and Commerce, the Pan American Union, the rubber and automobile industries, bankers and engineering schools.

While the separate tours will be financed from private industry and will have no official connection with the Congress at Washington, the Departments of State and Commerce will transmit the invitations.

Foreign Delegates to See Our Roads

In order to permit of a reasonable degree of flexibility of movement the tours will be limited to 100 engineering delegates each, and because of the large attendance which is expected, the Board has had to draw eligibility requirements. These will limit the invitations to official delegates who come from other countries and who are not resident in the United States.

All three of the tours will converge at Detroit where the delegates will be the guests of the motor industry for three or four days following which the party will return to New York City.

While the preliminary purpose of the first tour was to give the Latin engineers an intimate picture of highway transportation conditions here, such as could be obtained in no other way than by going out on the road itself, there were several secondary effects developed.

As these engineers travelled from city to city and from state to state their appearance was always made the occasion for some sort of a reception on the part of their hosts and out of their inspection trips there was generated a great deal of discussion about road matters which had a material effect in stimulating interest on the part of the public.

Another reaction which was particularly noticeable to those who traveled with the members of the party was that men who were strangers when the tour began and whose countries were inclined to be unfriendly to one another, discovered as they went along that after all they had much in common. The friendships which were formed have lasted in the years that have passed since the tour, as evidenced by the fact that when the Second Pan Amercian Congress was held at Rio last summer, many of the men who were in the United States before were in attendance and the occasion was one for the renewal of genuine friendships.

Experiment in International Relations

In the policy which has been adopted in the past in the conduct of these tours American industry has been conducting a unique experiment in international relations. All of the plans for their itinerary were worked out by the technicians of the Bureau of Public Roads in cooperation with the State Highway Departments, with the sole purpose in view of assuring the visitors that they would have an opportunity to see those projects and work which would be of greatest value to them in carrying on their programs.

While the engineers had an opportunity to obtain glimpses of different types of factory development or of agricultural communities the sole purpose was to give them a cross section of practices here and not to commercialize the trips.

It is anticipated that a similar program will be followed out in 1930. It is anticipated that there will be large delegations at the Congress from Western Europe, China and Latin America. The Russian government has also indicated it will send a group of road builders. India, Australia, Africa, in fact, all of those areas where road development is a question of prime importance will unquestionably have men on hand to meet with the other officials and to see for themselves how it is that the United States has been able to do as much in road building as it has.

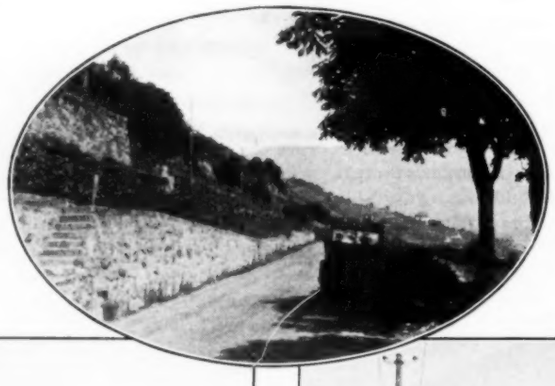
Large Road Show Proposed

Aside from official receptions which will make the week of the Congress at Washington a gala event, and aside from the program itself, it is anticipated that there will be a large road show held under the auspices of the American Road Builders' Association.

The American Association of State Highway Officials and perhaps other of the engineering organizations will have sessions in Washington during the Congress and out of the event it is anticipated will come a new examination into the questions of highway development both here and abroad.

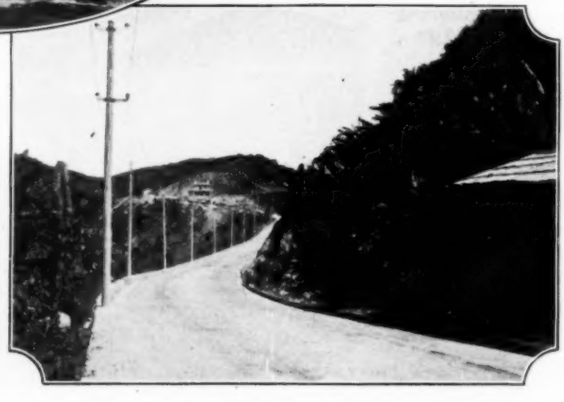
Foreign Countries Are Building Extensive Mileages of Improved Highways

Below—Part of the Appian Way, Italy, Not Comparable in Width or Smoothness to Our Modern Roads for Motor Vehicles



Oval—A Hard Surfaced Highway in Switzerland Between Lausanne and Montreux

Below—A Section of a Venezuelan Highway Near Caracas



Résumé of Road and Bridge Building in the South by States

Section Building Extensive Mileages of Hard Surfaced Highways — Also Concentrating on Year-Round Low Cost Roads

APPROXIMATELY $560,000,000 will be expended this year in the sixteen states from Maryland to Texas for development of improved highway facilities. Road building programs announced in the South for 1930 contemplate expenditure of more than $280,000,000 on state highway systems alone. Normally, similar work undertaken by various subdivisions such as parishes, districts and counties, and paving work in towns and cities involves an equal expenditure.

In addition to funds provided by state and county bond issues, the Southern states are receiving annually steadily increasing amounts from automobile license fees and gasoline taxes, thus assuring in the aggregate large sums for constructing new roads and for improving and expanding established systems.

Several states are also pushing the construction of state-owned toll bridges which are being financed by bond issues to be amortized and on which interest charges will be paid from funds made available by collection of tolls on the respective structures. After the bonds are paid off the structures will be made toll free. Meanwhile these states are finding it possible to expend millions of dollars for structures financed under this method without seriously delaying their road programs, which would naturally result if regular funds were invested in such structures, for many of these bridges involve the expenditure of $1,000,000 to $1,500,000 each. The South, because of its topography and the number of large rivers, requires many costly structures of every known type of construction and material. A fight is vigorously under way against the building of privately owned toll structures.

Alabama to Expend $10,000,000 in 1930 for State Roads

By L. M. DINSMORE,

Office Engineer, Montgomery.

The Alabama Highway Department has completed during 1929 the following:

Graded and drained	326 miles
Sand-clay and topsoil	137 miles
Gravel and chert	338 miles
Bituminous surface	59 milsc
Cement concrete	118 miles

During the last fiscal year the expenditures were divided as follows:

Contractors' estimates	$10,214,172.00
Maintenance	1,650,062.00
Administrative and engineering	819,576.59
Contractors' estimates on State owned toll bridges	2,500,000.00

The item of administration and engineering includes all expenditures such as preliminary, engineering, construction supervision, testing laboratory, car costs and car operation costs and all overhead.

There are now under construction:

Graded and drained	308 miles
Sand-clay and topsoil	89 miles
Gravel and chert	226 miles
Bituminous surface	18 miles
Cement concrete	75 miles

The aggregate of the contracts on the above is $9,824,000. The State also has under construction 15 State owned toll bridges at an estimated cost of $5,000,000; two are now open to traffic and the other 13 will be finished by next summer.

Including the carry over of uncompleted contracts the Highway Department will spend approximately $10,000,000 during 1930. The greater per cent of this will go for grading and draining done with convict labor.

The State System, including work under construction, is as follows:

Graded and drained	850 miles
Temporary surface, such as sand-clay, topsoil, gravel and chert	2547 miles
Hard surfaced	775 miles

Over $15,000,000 to Be Expended by Georgia for State Highways

By E. G. ZACHARIAS,

Statistician, East Point.

During 1929 the State Highway Board of Georgia completed approximately 155.2 miles of graded and top-soil road; 19.6 miles of gravel, chert and macadam roads; 188.5 miles of surface treated roads; 88.7 miles of bituminous macadam roads; 29.9 miles of asphalt roads; 75.7 miles of concrete roads and 2.0 miles of brick roads. These figures are approximate.

The only large bridge project put under construction during the year was over the Altamaha River at Doctortown. The length of this bridge is 5912 feet. It consists of 600 foot steel truss spans and swing spans over river, and 5312 feet of creosoted timber trestle approach, and 476,000 cubic yards of earth embankment.

Proposed work for 1930 comprises 359 miles of graded road, 89 miles of graded and gravel road and 525 miles of paving. We will also let six large bridge projects.

The past legislature increased the gasoline tax to six cents, of which the Highway Board will get four cents.

Our program for next year contemplates the expenditure of approximately $12,187,000 for construction, and $3,500,000 for maintenance and general expense.

$16,000,000 for State Highway Work in Kentucky in 1930

By H. D. PALMORE,

State Highway Engineer, Frankfort.

The State Primary System of Highways of Kentucky includes approximately 11,500 miles.

At the close of the 1929 construction season there was under construction and maintenance the following approximate mileages:

Type	Under construction	Under maintenance	Total
Grade and drain	411,198	360,716	801,914
Gravel	120,174	1,227,057	1,347,231
Trafficbound macadam	326,406	659,567	985,973
Trafficbound macadam, surf. treat.	.....	53,915	53,914
Waterbound macadam, surf. treat.	.....	11,909	11,909
Waterbound macadam, surf. treat.	.....	1,090,908	1,090,908
Bituminous macadam	12,332	193,552	205,884
Rock asphalt	7,310	186,210	193,520
Reinforced concrete	5,075	301,683	306,758
Bituminous concrete	.....	20,978	20,978
Brick	.....	4,498	4,498
Total	**912,495**	**4,110,992**	**5,023,487**

We estimate that the expenditures of the State Highway Commission during the year 1930 will be approximately $16,000,000. This expenditure will be distributed approximately as follows:

Construction	66.85%
Reconstruction	6.65%
Maintenance	11.26%
Engineering	4.19%
Equipment	3.72%
Administration	3.25%
Truck tax refund to counties	2.56%
Interest on road warrants	.9 %
Miscellaneous	.62%

The program for the coming biennial period beginning April 1, 1930, and ending March 31, 1932, will include the following approximate construction and reconstruction work:

High type pavement	75 miles
Gravel surfacing	110 miles
Traffic-bound surfacing	560 miles
Retread	190 miles
Reconstruction and widening	100 miles
Additional stone for traffic-bound and gravel	600 miles
Grade and drain	670 miles

On January 6 the State Highway Commission received bids for the toll bridge bonds amounting to a total of approximately $11,500,000. Construction work on these toll bridges should be well under way in 1930 and 1931.

Over $32,000,000 Expenditure for Arkansas Roads and Bridges During 1930

By DWIGHT H. BLACKWOOD,
Chairman, Arkansas Highway Commission, Little Rock, Arkansas.

The status of the Arkansas state highway system at the end of 1929 as to nature of improvements was approximately as follows:

Unimproved	1,092	Miles
Graded and drained	1,400	"
Graveled	4,878	"
Bituminous macadam	195	"
Asphalt	407	"
Concrete pavement	504	"
Total	8,476	"

Types of roads and bridges on which contracts were awarded in 1929 follow:

Graded and drained	522.7	Miles
Graveled	793.7	"
Burnt shale	41.2	"
Concrete paving	176.3	"
Bituminous concrete	30.1	"
Total road mileage contracted	1,564.0	"
Timber bridges	16,685.8	Feet
Concrete bridges	40,063.9	"
Steel bridges	7,217.5	"
Total bridges contracted	63,967.2	"

In addition to these projects under contract, many small bridges and many miles of road were constructed or reconstructed by state forces.

The average cost of building gravel roads has been found to be approximately $15,000 per mile; asphalt surface roads, approximately $40,000 per mile; asphalt surface on concrete base, approximately $45,000 per mile. Grading and drainage costs, due to the widely varying surface conditions, run from $5,000 to $18,000 per mile.

One of the biggest projects was the building of a new earth and concrete viaduct approach to the Harahan bridge across the Mississippi River at Memphis, to replace a wood viaduct built several years ago by Crittenden County. The new structure will be a free passage, most of Arkansas' share of the cost having been paid for by tolls on the old structure. The state of Tennessee, City of Memphis, and the Federal government participated in the construction of the new structure, which is 2.4 miles long.

The commission now is working on the 1930 program, which consists largely of realigning and permanently surfacing unfinished sections of seven or eight trunks across the state highways. The special session of the 1928 Legislature authorized the sale of $7,500,000 of toll bridge bonds and eight state owned toll bridges, which will become free passageways as soon as sufficient tolls have been collected to retire the bridge bonds. The fact that Arkansas has a great mileage of navigable rivers makes bridge building a major factor in laying out and completing a system of state highways. A survey of bridges now in place and to be constructed on the state system shows that there will be approximately 331,000 lineal feet of bridges, or an average of nearly 40 feet of bridge per mile of highway. It is expected that all the state-owned toll bridges will be completed in 1930.

Appropriations for 1930 include $18,000 000 for new road construction, $2,500,000 for toll bridge construction, $3,250,000 for maintenance of highways, $7,500,000 to retire road improvement district bonds, and $1,800,000 turnback to counties for improvement of local county roads.

$13,000,000 Expenditure Sets New Record in Highway Work in Maryland

By H. D. WILLIAR, JR.,
Chief Engineer, Maryland State Roads Commission, Baltimore.

The most extensive road building program ever undertaken since the inception of the State Roads Commission was completed this year, $9,500,000 having been expended on road construction, an amount almost double any previous year's expenditure. Of this amount, $633,000 was derived from the Federal Government and $8,867,000 from State and county bond issues, and that portion of the gasoline tax designated for lateral road construction and grade crossing elimination. Over 269 miles of roads were put under contract and more than 140 miles of shoulders to widen existing roads were constructed. Of the new roads 190 miles were of concrete; 21 miles of macadam; 54 miles of gravel and 4 miles were asphalt streets in Baltimore city. In addition to this, 39 contracts for modern concrete structures were awarded, widening and replacing narrow bridges on the highway system, and for the elimination of grade crossings.

The two outstanding widening projects were the 8½ miles of 10-foot concrete shoulders constructed on both sides of the existing 20-foot roadway on the Baltimore-Washington Boulevard, completing the widening of this roadway to 40 feet between Baltimore and Laurel, with the exception of a short section through Elkridge; and 46 miles of continuous shoulders constructed along the National Pike between Hagerstown and Cumberland. Several relocations were made in connection with this work, eliminating dangerous curves and grades through this mountainous section. This completes the widening and improving of the National Pike between Baltimore and Cumberland, a distance of 140 miles.

The concrete structures include the grade eliminations at Hyattsville, Elkton, Glenburnie, Altamont, Salisbury, Gormania, Vinegar Hill and Cockeysville. Ten additional grade separation projects will be put under contract in the near future. The major project is for the construction of a modern reinforced concrete girder bridge over the Chester River at Chestertown, a total length of 1459 feet, consisting of 38 35-foot spans on concrete piles, with a double leaf 60-foot clear span bascule. There will be a 20-foot clear roadway with a 5-foot sidewalk on one side.

$3,500,000 was expended for general maintenance, which included the surface treatment of 490 miles of macadam and gravel roads.

$13,000,000 will be available for road construction and maintenance in 1930.

$13,500,000 Highway Improvements Completed Last Year in Florida

By ROBERT W. BENTLEY,
Chairman, State Road Department, Tallahassee.

The budget of the Department for 1929 called for an outlay of, in round numbers, $13,500,000. Our operations to October 31, 1929, show a total of 267 miles of roads hard-surfaced; an additional 102 miles resurfaced; 205 miles of new grade built; 4320 feet of new bridge construction, most of these bridges being of concrete.

Contracts let for new work during the period embrace 216.26 miles of hard-surfacing, 32 miles of sand-clay, 68 miles of grading, 7,143 feet of concrete bridges and 75 feet of timber bridges. In addition, state convict forces are engaged in hard-surfacing, with three projects underway totaling 35.03 miles.

The State is building chiefly concrete roads on the main arteries, and rock-base, surface-treated roads for lighter traffic.

At this time the Road Department is building nearly a score of concrete bridge structures. Two of these — the Caloosahatchee River crossing on the Tamiami Trail and the Peace River crossing on the same highway—are each a little more than a mile long.

The State this year completed two great bridges, one at East Bay, the other at West Bay, both on Road 10, Bay County. The East Bay bridge cost $820.-084.29. West Bay bridge is 7530 feet long and cost $1,205,951.78.

The State now has under maintenance 3379.43 miles of roadway, in the state system.

The program for 1930, budget for which will be set up in January, calls for about the same amount of construction as in 1929. A new requirement instituted this year is that all new right-of-way shall be 100 feet wide, as against the former requirement of 66 feet.

Low Type Surfacing in Louisiana

$12,000,000 for Virginia Road Program in 1930

By C. S. MULLEN,

Chief Engineer, Department of Highways, Richmond.

On July 1, 1929, we had under construction:

10,769 miles concrete.
6,397 miles sheet asphalt.
100,807 miles bituminous macadam.
34,342 miles macadam.
13,300 miles gravel.
154,544 miles gravel or soil to surface treat.
87,623 miles grading.
11,990 miles miscellaneous.

For the year 1930 we will have approximately $12,000,000 for new construction, which is an increase of about twenty per cent over 1929. The major projects for next year are allocations of approximately $500,000 to Route 52 from Petersburg to Suffolk for a proposed soil or gravel road oil surfaced, and approximately $500,000 to U. S. Route 211 to complete this highway from Washington to New Market.

$25,000,000 in 1930 for State Highway Construction in Louisiana

By HARRY B. HENDERLITE,

State Highway Engineer, Baton Rouge.

The State of Louisiana has about 8000 miles of gravel roads; but because of the peculiar composition of the soil throughout the State, characterized by an almost total absence of true clay binder and in most cases sand filler as well, the gravel surfacing consists of a bed of loose pebbles which is not only dusty and annoying, but dangerous and expensive to maintain. Consequently, our program is to surface with a rigid slab the highways of outstanding importance, to surface with tar or asphalt treatments the roads carrying lighter traffic, to replace, when necessary, drainage structures over the labyrinth of bayous, sloughs and lagoons that cover the state and to erect bridges over the Red and Atchafalaya rivers and possibly the Mississippi.

The returns of a one cent tax on gasoline have increased during the past five years by about $125,000 each year and the present rate of return per year is about $1,800,000, which will float, I understand, bonds in the amount of $23,000,000. It is my opinion that the yearly increment in the return of the one cent tax will, in the near future, show an abrupt upward tendency, and consequently, as it is proposed to ask the legislature to set aside, for the purpose of issuing bonds, an additional two cents of the four cent tax now in effect, it may be assumed, since this proposition is widely endorsed, that during the next three years there will be available an additional $60,000,000 to $75,000,000 for construction purposes.

During 1929, in addition to a substantial mileage of gravel roads, there have been placed under construction 438 miles of concrete pavement. About 350 miles will be constructed during 1930. It is anticipated that some 400 miles additional pavement will be contracted for in 1930, which with the 350 miles already under construction will involve an expenditure of approximately $17,000,000. There will also be the usual expenditures for maintenance of $3,500,000, an expenditure of revenues from direct taxes of about $3,500,000 and from Federal aid about $1,000,000 which will bring the expenditure by the State Highway Department to a total of approximately $25,000,000 during 1930. Including the above mileages, it is anticipated that Louisiana will construct, by 1932 some 3000 miles of the highest type pavement.

$34,000,000 Road Program Mapped Out This Year in Texas

The Texas State Highway Department, Austin, awarded construction and maintenance contracts for highways during 1929 in a total amount of approximately 3444 miles aggregating over $32,700,000. These awards included 1767 miles of drainage and grading structures, 216 miles of gravel, shell, caliche, macadam and iron ore surfacing; 145 miles of bituminous roads; and 648 miles of concrete. They also included over 400 miles of surface treatment on gravel roads. Construction inaugurated also included 34 bridges costing slightly more than $3,000,000.

Expenditures for maintenance in 1929 approximated $8,000,000 to $9,000,000, of course being exclusive of asphalt topping and other betterment work done by the maintenance department.

When final figures are available it is estimated that records will show contracts let during 1929 had a valuation of $41,000,000 to $42,000,000.

Due to the fact that the department's fiscal year ends August 31 of each year, income by the calendar year is not available. The income for the last fiscal year was as follows:

License fees, $11,846,000
Gasoline tax, $11,208,000
Depository interest, $286,000
Sundry collections, $28,000
Total income from state sources, $23,369,000.

In addition actual payments by the Bureau of Public Roads during the period totaled over $4,288,000, while the various counties, in the form of county aid, paid into the state fund over $6,440,000, making total receipts of $34,098,000.

The last Legislature created a state highway patrol to protect the states investment in roads, be of service to the traveling public and enforce laws to insure safety. Initially about 50 men will be employed in this work.

No definite construction program for 1930 has been mapped out but it is indicated that the total sum available for roads will approximate the funds received in 1929.

$11,000,000 for North Carolina State Highways This Year

By JOHN D. WALDROP,

State Highway Engineer, Raleigh.

During 1929 the North Carolina Highway Commission completed the following work:

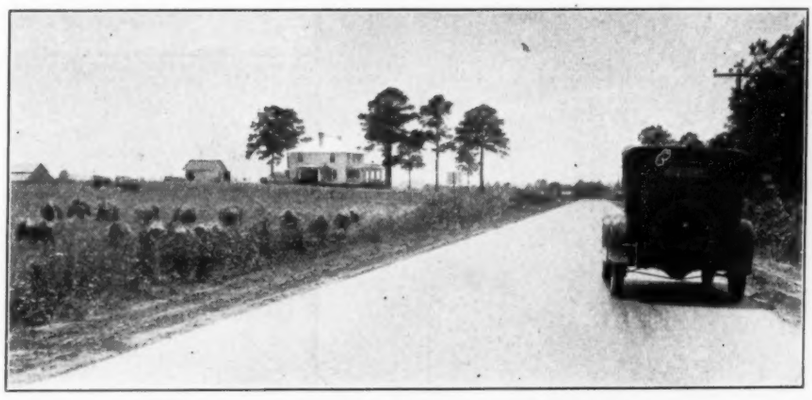
Graded roads	174.26 miles
Topsoil or sand clay	124.16
Gravel	184.62
Concrete	162.56
Sand asphalt	40.99
Asphaltic concrete	48.84
Surface treated topsoil or gravel	331.5

The largest and most outstanding piece of bridge work was the completion of the twin bridges and causeway at Wilmington at a cost of approximately $1,000,000. This project consisted of two drawbridges with bascule lift spans over Northeast River and the Cape Fear River.

The 1929 Legislature increased the gasoline tax from 4 cents to 5 cents and set aside from this amount 1 cent to be spent in the various counties on county road maintenance or construction under the supervision of the State Highway Commission. This money pro rated to each county could also be used on county debt service upon the approval of the State Highway Commission. The 1929 Legislature also created a State Highway Patrol consisting of 37 men to regulate traffic on State highways. This Legislature also authorized an additional 1543 miles to be added to the State system during the succeeding two years. Approximately 1200 miles of the above amount has been added and taken over for maintenance, bringing the total mileage on the State System up to 9400 miles.

During last year R. A. Doughton was appointed chairman and John D. Waldrop was named state highway engineer.

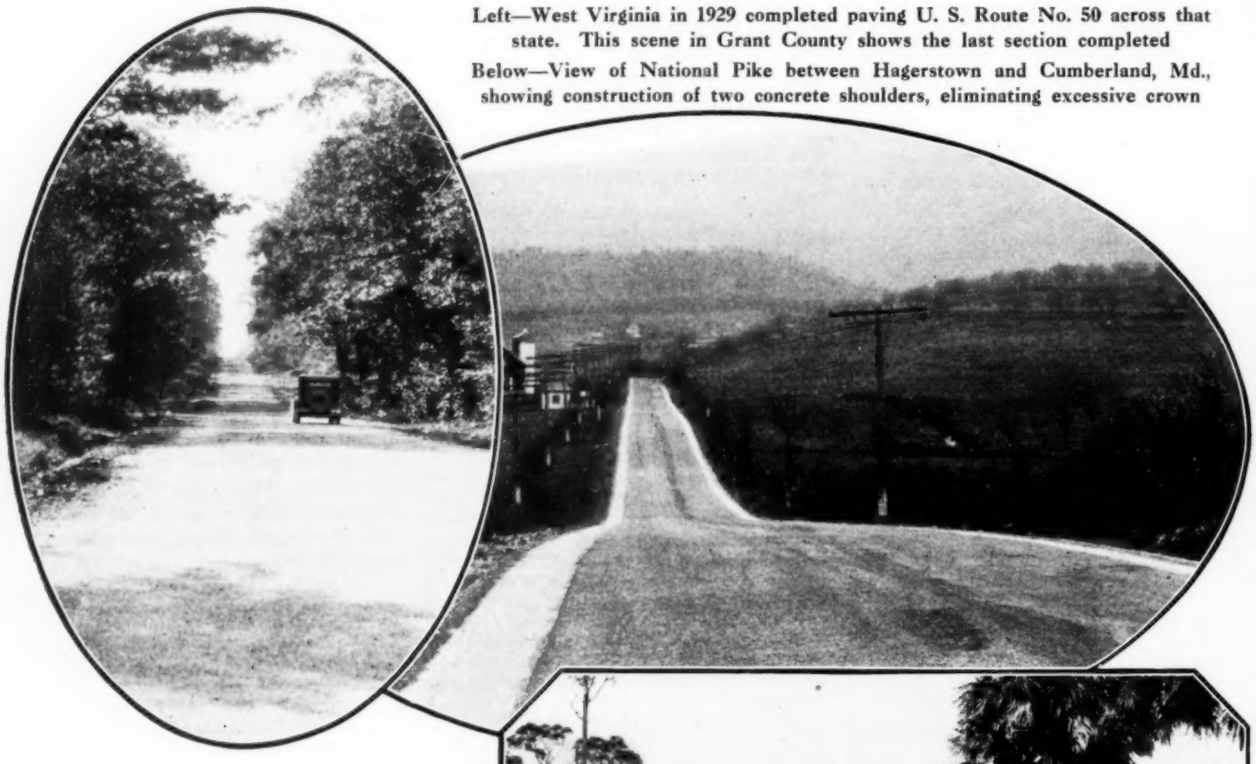
We will have available approximately $6,000,000 for new construction and about $5,000,000 for maintenance and betterments. We contemplate building approximately 125 miles of paved highways and the program will also include two large bridges; one to be built over the Pasquotank River at Elizabeth City across the Inland Waterway, the structure to cost approximately $350,000. The second large structures will be over the Roanoke River at Weldon and will cost approximately $250,000.



Bituminous Surfaced Highway in North Carolina

Left—West Virginia in 1929 completed paving U. S. Route No. 50 across that state. This scene in Grant County shows the last section completed

Below—View of National Pike between Hagerstown and Cumberland, Md., showing construction of two concrete shoulders, eliminating excessive crown



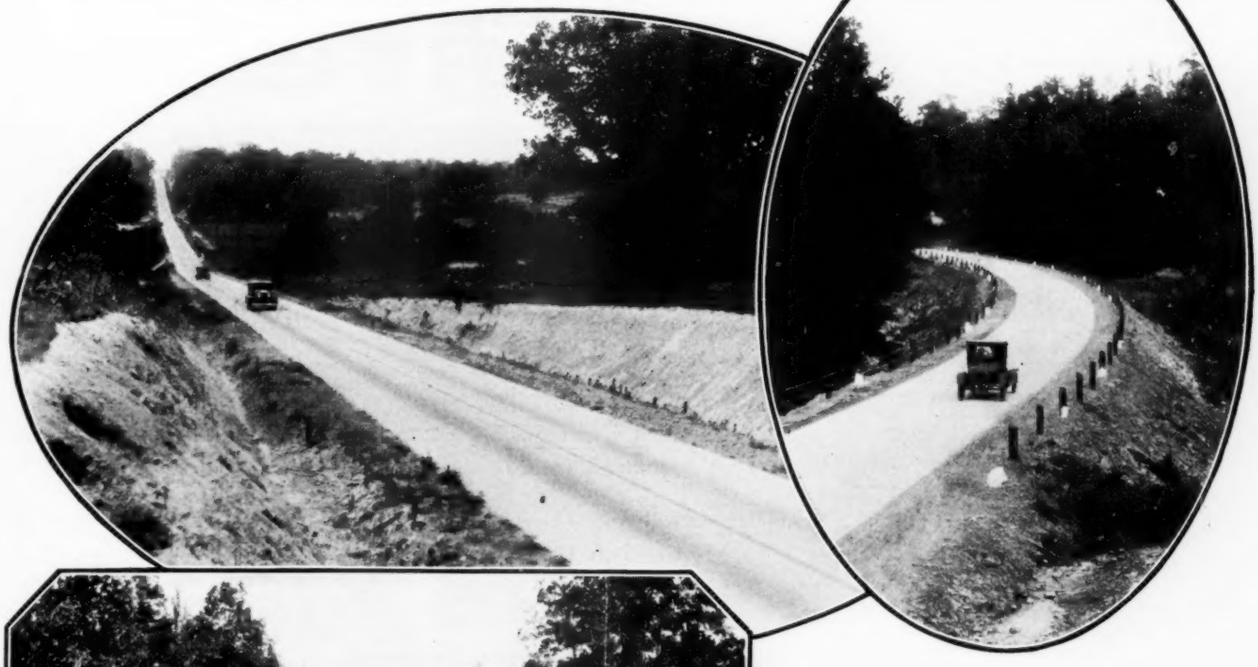
Right—A surface treated rock base road in Gulf County, Fla. Many miles of this type are built annually in Florida. The State Road Department's aim has been to build continuous long stretches of roads comprising main routes

Left—High type pavement completed south of Clinton, Mo., during the past year

Below—A concrete pavement on U. S. Highway No. 17 south of Savannah, Ga. Note the standardized route markers at the right and the center line on the pavement surface

Right—Concrete pavement in Alabama, U. S. Route No. 31, showing substantial guard rail and wide shoulders

Below—Section of Route No. 70 in Tennessee. The state constructed in 1929 more than 740 miles of paving of all kinds



Left—A well-maintained stretch of gravel road in the southern part of Arkansas. At the end of 1929 the state had 4878 miles of gravel roads, 195 miles of bituminous macadam, 407 miles of asphalt and 504 miles of concrete pavement

Right—Sheet asphalt on concrete base highway on U. S. Route No. 1 north of Columbia, S. C.

Below—A recently widened road in Atascosa County, Texas. The base was widened from 16 to 19 feet by two shoulders, each 18 inches wide

Mississippi Road Program Hampered Because of Failure to Enact Proper Legislation

By J. D. MONETTE,

Office Engineer, Jackson.

Construction for the year 1929 has been very limited due to the lack of highway legislation after one regular and two special sessions. In the past this State has relied solely on matching county funds with Federal aid for construction, and as the Government no longer allows anything but State funds to be used in matching Federal aid this State's program is automatically stopped; so for this reason we will have no program for 1930 unless a bill is passed at the regular session of the Legislature, which convenes in January.

The work completed during the year 1929 is as follows:

49.8 miles drained and graded road.
68.3 miles gravel surface.
4.3 miles concrete pavement.
0.5 miles asphalt pavement on concrete base.
One bridge across the Yazoo River north of Vicksburg, 1717 feet, completed at a cost of $400,000.

In addition to the above we have supervised for Hinds County the construction of 16.5 miles of concrete pavement between Raymond and Utica.

We still have under construction 68.3 miles of graded and drained road and two bridges. One bridge located across Biloxi Bay between Biloxi and Ocean Springs, total length of the structure being 7770 feet, is estimated to cost $850,000.

$25,000,000 Proposed Expenditure For Roads in South Carolina This Year

By BEN M. SAWYER,

Chief Highway Commissioner, Columbia.

The total length of the South Carolina State Highway System is about 6000 miles and by January 1, 1930, approximately 1274 miles had been paved, 346 miles given a bituminous surface treatment, 3673 miles surfaced with gravel, top-soil or sand-clay, etc., and 55 miles graded and drained but not surfaced.

The portion of the above mentioned work done during the calendar year of 1929 approximates 227 miles paved, 70 miles given a bituminous surface treatment, 160 miles surfaced with gravel, top-soil or sand-clay, etc., and 12 miles graded and drained but not surfaced.

Two major bridges have been under course of construction during 1929, one over the Broad River on State Highway No. 2 just north of Columbia and the other over the Savannah River at Fureys Ferry on State Highway No. 20 about 15 miles north of Augusta, Ga., the latter being built jointly by this Department and the State Highway Board of Georgia.

In addition to the two major structures mentioned above, the total length of smaller bridges let to contract during 1929 will approximate 4830 lineal feet.

The expenditures during 1929 will amount to approximately $10,000,000 for State road and bridge construction, $2,600,000 for the maintenance of State highways, and $440,000 for the operation of the Department.

During its last session, the State Legislature passed a Bond Issue Act which was approved by Governor John G. Richards on March 16, 1929. This Act authorizes the Governor and State Treasurer to issue State Highway Certificates of Indebtedness and Notes to an aggregate amount of $65,000,000, of which not more than $20,000,000 shall be issued during any one year. The principal and interest on these Certificates of Indebtedness and Notes are to be paid by motor vehicle license fees and the proceeds from five-sixth, of the State's 6-cent gasoline tax. It is expected that the Department will expend approximately $20,000,000 for State road and bridge construction, $3,000,000 for the maintenance of State highways, and $500,000 for the operation of the Department during 1930.

Laying a Brick Pavement in Ware County, Georgia

$30,000,000 Highway Program for Missouri in 1930

By T. H. CUTLER,

State Highway Engineer, Jefferson City.

During 1929 the Missouri Highway Department has completed 250 miles of graded earth roads, the greater portion of which was 30 feet in width with a few traffic relief projects of greater width. To December 1, 200 miles of roads had been gravel surfaced with a probable additional 20 miles before the season closes. Practically all of this was placed 18 feet in width with feather-edge method resulting in slightly wider travelled way. To December 1, 392 miles of concrete pavement had been completed.

The Missouri River Bridge at St. Joseph, total length 1844 feet, was completed in July, 1929, at a total cost of $516,708.29.

The most important legislation during the year was initiation of proposition No. 3 which provided for an additional $75,000,000 bond issue. The legislative enabling act made the amount of this issue effective on August 27, 1929.

Other legislative acts are indicated by the following subjects:

Civil Subdivisions may purchase right-of-way.
Commission may purchase, lease or condemn lands.
Commission may convey lands or leasehold interest.
Relocation of highways and settlement for damages.
Salary of Chief Engineer, Chief Counsel and others.
Creating State Highway Department Funds and appropriating moneys therefrom.
Reimbursement on bridges to counties and cities.
Civil subdivisions may purchase right-of-way and
Allowing Cash Refund.

Among maintenance developments of the past year has been the "retread" method of low cost surfacing. Experiments were made in the mechanical mixing of crushed rock, gravel, or chats with bituminous materials until successful retread surfaces of low cost were obtained.

Also, our Bureau of Maintenance has sponsored many organizations of citizens in counties and towns which, together with chambers of commerce and patriotic organizations, have advanced the cause of highway beautification throughout the State. These organizations help finance and do the actual planting necessary for such a program under the supervision of a landscape gardener and an engineer of the Bureau of Maintenance. This policy will be continued in the future.

Looking to the future our Bureau of Surveys and Plans totals proposed work for 1930 as follows:

365 miles of graded earth.
486 miles of gravel surfacing.
457 miles of concrete pavement.

The cost of this program is of course problematical but we believe the total expenditures will amount to approximately $30,000,000.

The Record of Oklahoma Embraces Millions

By A. R. LOSH,
State Highway Engineer,
Oklahoma City.

Contracts awarded in 1929 by the State Highway Commission included the following: 428 miles grading and drainage and bridges and 128 miles pavement with a total cost of $9,275,000. The work completed comprised 250 miles grading and drainage and bridges; 57 miles gravel; and 228 miles pavement with a total cost of $8,500,000. There was under construction on January 1, 1930, approximately 262 miles of grading and drainage and 35 miles of pavement, involving a total cost for unfinished work of $4,463,000.

The contemplated work for this year is as follows: Pavements, 300 miles; gravel surface, 75 miles; surface treatments, 100 miles; and grading, drainage and bridges, 420 miles. It is estimated that the total expenditure for 1930 construction will necessitate the expenditure of $15,000,000.

The state furnishes the cement for concrete pavements and large structures. Next season's work concrete proportions for pavement will be by weight. Semi-monthly payment on estimates will be made. Large paving lettings are proposed for January.

Expenditures in West Virginia in 1930 to Exceed $16,790,000

By GEORGE H. HILL,
Office Engineer, Charleston.

West Virginia is prepared to expend on State road construction and maintenance in 1930 a total of some $16,796,000. Funds available for new construction contracts include $10,000,000 of State road bond proceeds, and $796,000 of Federal Aid. Contracts carried over from 1929 will require the expenditure of approximately $3,000,000, all of which is already in the State treasury, and approximately $3,000,000 will be expended on State road maintenance.

Expenditures for construction on the State system in 1929 reached a total of $9,792,715.55, and State road maintenance costs for the year were $2,555,759.13.

New State roads completed during the year totaled 361.02 miles, the mileage by types being as follows: Concrete 80.44; bituminous macadam 52.72; rock asphalt 10.00; bituminous concrete 6.65; brick 0.8; stone base 50.13; gravel 73.66; graded earth 86.62.

The following mileages under contract and partially completed are being carried over into 1930: Concrete 19.58; bituminous macadam 33.85; rock asphalt 7.44; stone base 22.51; gravel 62.66; graded earth 83.98.

The tentative program for new contracts to be let in 1930 is as follows: Concrete 83 miles; bituminous macadam 92 miles; graded earth 84 miles; reconstruction of various types of paving 21 miles; bituminous "re-tread" surfaces on gravel roads 165 miles.

State route mileage was expanded during the year by the designation of some 218 miles of county-district roads as parts of the State road system. The total is now 4,038 miles.

New legislation on roads and allied subjects, passed by the Legislature of 1929, included authorization of the sale of $20,000,000 of State road bonds, one-half in 1929 and the remainder in 1930, an act to permit the more extensive use of prison labor on roads, an act establishing a State bridge commission with power to build or acquire, and operate toll bridges, purchase or construction to be financed by State bridge bonds, and the said bonds to be retired solely by tolls, after which the bridges are to be free, and an act to protect trees, flowers, and shrubbery on the right of way of public roads and for a distance of one hundred yards on each side of a public road.

Tennessee Proposes to Improve 800 Miles State Highways

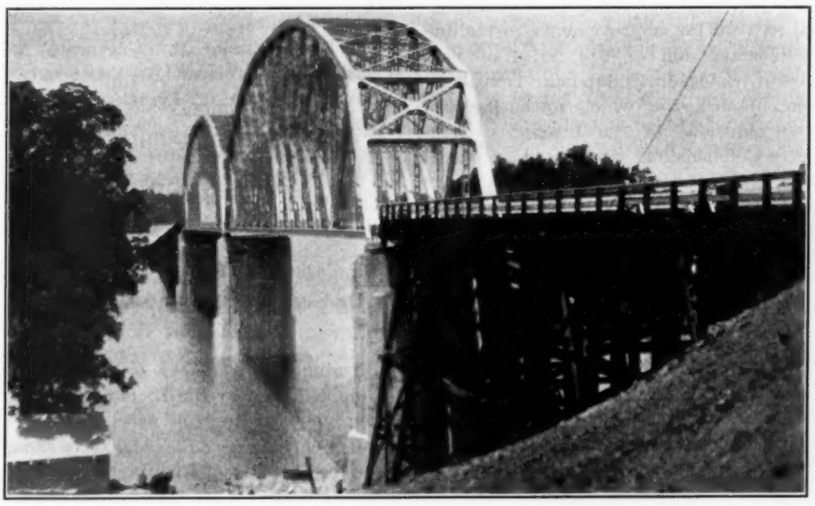
By L. N. MEANS,
Assistant Office Engineer, Nashville.

The Department of Highways and Public Works has completed or undertook construction during the current year of 420 miles of grading and drainage, 220 miles of cement concrete paving and 100 miles of rock asphalt top on concrete base.

We awarded contracts for two bridges in 1929 known as Special Bridge Project, of major importance—over the Cumberland River at the county line of Wilson and Trousdale Counties and over the Tennessee River in Marion County. The following bridges have been completed during this year:

A bridge over the Obion River on State Highway No. 3, between the towns of Troy and Newbern, approximately at Obion. A bridge in Smith County over the Cumberland River on State Highway No. 25 at Carthage. A bridge in Loudon County over the Tennessee River on State Highway No. 2 between Lenoir City and Sweetwater and approximately at Loudon. A bridge over the Hiwassee River on State Highway No. 58 between Decatur and Georgetown.

Our program for the coming year will probably include approximately 400 miles of grading and drainage, 300 miles of plain concrete paving and 100 miles of concrete base with asphalt top.



New Bridge Over Yazoo River North of Vicksburg, Miss.

What's Next in Highway Building?

IMMEDIATELY preceding the Annual Road Show and Convention of the American Road Builders Association the MANUFACTURERS RECORD, as in past years, presents a résumé of outstanding developments in highway building and motor transportation, points out indicated trends, and discusses broadly the big problems confronting the road-building industry. For several years the MANUFACTURERS RECORD has stressed the importance of speeding up the country's highway building program. Recently highway officials in State and Federal departments, road builders' associations, machinery and material manufacturers, and nationally known economists have urged increased Federal aid for road work, and it is likely that $50,000,000 additional annually will be provided by the present session of Congress.

Another important subject brought to the attention of the highway industry by this paper was the need for curbing the diversion of revenue from automobile license fees and gasoline taxes to other than road building purposes. While such diversion has been made and probably will be made in future, road building officials have awakened to the seriousness of the situation and no diversion will go unchallenged. It is generally conceded that all available funds for road work will be required exclusively for the development of highways to meet the present and near future needs for the relief of traffic congestion and for increasing the factor of safety in the operation of motor vehicles.

In regular issues of the MANUFACTURERS RECORD, feature articles throughout the year discuss highway building and motor transportation developments. Among a number of important articles which have been scheduled for coming issues are: Motorbus Operation as Affected by State and Federal Taxation; Progress Made in the Building of Low Cost All-Year-Round Highways; Continuous Land Transportation Across the Three Americas—North, Central and South.

That road builders are alive to the highway needs of the country is indicated by the carefully outlined plans for building great mileages of roads for rural sections. Several states have already undertaken the building of secondary state highway systems and the subject is today one of prime importance to highway builders. What is being done in the various states along these lines will be presented in a forthcoming article.

The country is becoming beauty-minded. Therefore, vigorous campaigns are under way for the elimination of roadside billboards and for beautifying rights-of-way. An exhaustive discussion of the situation is the basis of a feature article for the immediate future.

$280,000,000 RAILWAY EXPENDITURE

Atchison, Topeka and Santa Fe Plans 380 Miles of New Lines

Press reports state that The Atchison, Topeka & Santa Fe Railway System, of which W. B. Storey, Chicago, is president, plans an expenditure of $280,000,000 in 1930 for improvements to include the construction of 380 miles of new lines in Colorado, Oklahoma, Texas and New Mexico, for which authority has been requested of the Interstate Commerce Commission. Anticipated expenditures are listed as follows: Additions and betterments, $22,000,000; new rolling stock, $18,703,000; lines being rebuilt, $3,025,000; lines contemplated, $5,000,000; property maintenance, $85,000,000; property operation, $82,000,000; taxes, $21,490,000; interest, $12,890,000, and dividends, $30,371,570.

LOOK FOR GREATER EXTENSION IN USE OF DIESEL POWER IN 1930

Diesel Engine Manufacturers' Association Elects Officers

The Diesel Engine Manufacturers' Association, which began active operations only last year, has made noteworthy progress and serves as a vehicle for collective cooperation with the activities of other agencies, such as that of the American Society of Mechanical Engineers, in work that organization has been conducting in the standardization of fuel oil. The following officials were elected at the recent meeting in the association headquarters, 30 Church St., New York:

President, A. E. Ballin, McIntosh & Seymour Corp., Auburn, N. Y.; Vice-President, Geo. Codrington, Winton Engine Co., Cleveland, Ohio; Chairman, Executive Committee, E. T. Fishwick, Worthington Pump & Machinery Corp., 2 Park Ave., New York; Chairman, Technical Committee, H. W. Dow, Nordberg Mfg. Co., Milwaukee, Wis.; Secretary and Treasurer, H. A. Pratt, Ingersoll-Rand Co., 11 Broadway, New York.

A recent survey of the power field shows that Diesel engines are in use in practically all industries, such as power generation, mining and quarrying and allied operations, marine propulsion, construction, food preparations, refrigeration, etc., clothing and textile manufacture, land transportation, pumping operations and miscellaneous manufactures.

It is pointed out that the largest industrial user of Diesel engines in the United States is the Phelps-Dodge Corporation, employing approximately 40,000 horsepower. Another concern, the Commerce Mining and Royalty Co., operates 10,750 horsepower in one plant at Cardin, Okla.

It is expected that the big expansion in the use of Diesel engines in the future will be found in the field of portable and semi-portable power. This tendency toward portable uses of Diesel power is influencing the design of Diesel engines in that lighter and higher speed units are being built.

The Diesel Engine Manufacturers' Association looks forward to great extensions in the use of Diesel engines in 1930.

$4,000,000 BOND ISSUE PROPOSED

Birmingham to Expend $3,000,000 for Drainage and $1,000,000 to Develop Airport

Birmingham, Ala.—An ordinance may be adopted soon by the Birmingham City Commission calling a special election about February 1 on a $4,000,000 bond issue to take care of Birmingham's storm drainage problem and for developing a municipal airport. An effort will be made to have the bonds authorized in time to sell them so that construction may start early in the spring. Immediate plans of the city contemplate widening and deepening the channels of Village Creek and Valley Creek, the former project to cost about $2,126,000 and the latter $827,000. The needs of Village Creek would be taken care of throughout its entire length in the city, and those of Valley Creek from the end of the storm sewer at Seventh street and Fifth avenue, north, to the western city limits. A report of City Engineer A. J. Hawkins recommends a much larger program for the permanent improvement of the two creeks. Surveys have been made by the engineer's office of the proposed site of the airport between Woodlawn and Tarrant City and Mr. Hawkins is now preparing plans and estimates of costs of the development. The proposed bond issue will probably provide $3,000,000 for drainage work and $1,000,000 for the airport.

$400,000 Hospital Contract

General contract to erect a $400,000 ward building for the Spring Grove Hospital for the Insane, at Catonsville, near Baltimore has been awarded to the Davis Construction Company, Baltimore. The structure will be three stories and basement, T-shaped, 300 by 110 by 52 feet, of stone and reinforced concrete construction, with steel sash and slate roof. Henry Powell Hopkins and Allan T. Burton are the architects and James Posey, mechanical engineer, all of Baltimore.

APPALACHIAN ELECTRIC POWER PROGRAM

Two Hydro-Electric Developments Planned at Cost of $15,000,000

Discussing its proposed improvement program for Southwestern Virginia and Southern West Virginia in 1930, the Appalachian Electric Power Company, Bluefield, W. Va., advises that it has begun the installation of a 2400-horsepower boiler at its steam plant at Glen Lyn, which is estimated to cost $500,000, with auxiliaries. A new 88,000-volt outdoor substation is being built at Bluefield, at a cost of approximately $225,000, which will also include the cost of rebuilding the distribution system to provide for an increased voltage. Materials have been ordered for both of these projects and the work is being done by company forces. The enlargement of small substations and the construction of short line extensions during the year will involve a cost of about $500,000. In addition, the company is ready to go ahead with the construction of two hydro-electric developments on New River—one in Pulaski County, Va., and the other in Summers County, W. Va.—after action by the Federal Water Power Commission. These two projects are estimated to cost in excess of $15,000,000.

$400,000 Courthouse and Jail

Princeton, W. Va.—Bids will be opened February 12 by the Mercer County Court to erect a new $400,000 courthouse and jail building here, separate bids to be asked on the general contract plumbing and heating, electrical work, and jail equipment. The building will be 128 by 142 feet, with a three-story and basement central section 72 by 106 feet, and two 2-story and basement wings, each 28 by 142 feet. Construction will be concrete and steel and all exterior walls faced with Indiana limestone. Alex. B. Mahood, Bluefield, W. Va., is the architect.

Gas for Mississippi Cities

Yazoo City, Miss.—The Mayor and Board of Aldermen have granted a 25-year franchise to the Mississippi Power & Light Company, Jackson, to furnish natural gas to Yazoo City and construction of the distribution system will begin in the near future. The company will also build a 2.5-mile tap line to connect the system with a 22-inch line being built from Monroe, La., to Birmingham, Ala. A 25-year franchise was recently granted the company by officials of Pickens, Miss., and a similar franchise by officials of Goodman, Miss. Distribution systems for these towns have been completed.

$30,000,000 COTTON CORPORATION

Marketing Agency Being Organized by Federal Farm Board

Washington, D. C.—The Federal Farm Board has approved the final draft of a charter and by-laws for a $30,000,000 cotton corporation—the second big agency of the Board for cooperative marketing. S. L. Morley, Oklahoma City, is chairman of a subcommittee handling the work of drafting the charter, which is expected to be approved January 9 by a committee of cotton growers. Incorporation papers will probably be filed in Delaware before January 15. Based on present expectations, the Board states that the new incorporation will immediately include as member stockholders the state cotton co-operative associations of North Carolina, South Carolina, Georgia, Alabama, Mississippi (short staple cotton), Tennessee, Arkansas, Louisiana, Missouri, Oklahoma, Texas, Arizona and California, representing an immediate marketing size of 1,000,000 bales of cotton. Selection of a name for the corporation will be made by the organization committee at its meeting in Washington January 9, when the committee will also consider selection of headquarters for general offices. The subcommittee has recommended that Dallas, New Orleans, Memphis and Atlanta be considered for headquarters and that spokesmen for these cities be invited to present their claims.

$500,000 Bond Election Called

Harlingen, Tex.—The City Commission has called an election for January 21 on a bond issue of $500,000, of which it is planned to use $280,000 for refunding purposes and the remainder to build an incinerator, sewage disposal plant, fire station, and for park improvements and street work.

Plans $250,000 Science Building

San Antonio, Tex.—Plans are being made by Our Lady of the Lake College, Rev. H. A. Constantineau, president, to erect a $250,000 science building and construction is expected to be started soon. The college is spending $60,000 to enlarge the auditorium and dining hall.

Contract for $400,000 Building

Ellicott City, Md.—General contract to erect a new novitiate for the Franciscan Fathers at Folly Quarter, near Ellicott City, has been awarded to the North-Eastern Construction Co., Baltimore, at approximately $400,000. The structure will be 2 stories, stone, about 190 by 173 feet erected around a rectangular court, with tile roof and concrete floors. It will be equipped with a steam heating plant. Palmer & Lambdin, Baltimore, are the architects.

CREOSOTING COMPANY BUILDING ADDITION

Has Contract for 94,000 Telephone Poles

Spartanburg, S. C.—The Taylor-Colquitt Company is constructing an addition to its creosoting plant here and expects to put in operation about March 15 additional equipment which will increase the plant capacity about 50 per cent. This enlargement was necessitated by an increasing number of contracts, one of which was from the Western Electric Company for 94,000 telephone poles for the use of the American Telephone & Telegraph Company, New York, and its subsidiaries. A. B. Taylor is president of the Taylor-Colquitt Company.

Atlanta Profits Through Advertising

Atlanta, Ga., January 4.—A summary of results obtained during 1929 by the Atlanta advertising campaign, prepared by Frank K. Shaw of the Industrial Bureau of the Chamber of Commerce, shows a total of 191 new concerns, bringing jobs for 4646 persons and pay rolls aggregating $7,482,000.

Seventeen of the newcomers were in the wholesale and warehouse business; two in wholesale and retail business; sales offices were opened by 102 enterprises, 28 retail. There were five public service companies; five engineering and contracting concerns; thirteen service organizations and two fiduciary institutions on the list. Three new concerns bought their own sites, eight occupied buildings constructed for them, 44 leased stores and eight occupied second floors and lofts. Space in office buildings was leased by 118 of the new firms, while vacant factory property was taken by eight.

Bids on $450,000 Synagogue

Atlanta, Ga.—The building committee of the Hebrew Benevolent Congregation will open bids January 16 to erect a $450,000 synagogue at Peachtree and Spring streets. Hentz, Adler & Shutze are the architects and Robert S. Fiske, consulting engineer, both of Atlanta. The following contractors are estimating: George A. Clayton Co., Brazell & Miller, A. J. Krebs, Grahn Construction Co., Shelverton Construction Co. and the Griffin Construction Co., all of Atlanta.

$2,000,000 TEXTILE PLANT PROJECTED

United Merchants and Manufacturers Plan to Install Finishing Unit and 21,000 Spindles

Clearwater, S. C.—Plans are being made by the United Merchants and Manufacturers, Inc., Homer Loring, president, Boston, Mass., for the construction of a $2,000,000 finishing plant here and the installation of 21,000 spindles in the Aiken, Langley and Clearwater mills. The finishing plant is designed to handle the output of the three mills, now known as the Homer Loring group. Plans call for the installation of 9000 spindles and 200 looms at Langley, 7000 spindles in the Aiken mill and 5000 spindles in the Clearwater plant, known as the Seminole Mill. Charles T. May, Boston, is the engineer for the finishing plant.

$970,000 CONTRACT ON ST. LOUIS DRAINAGE

Progress Noted on $11,000,000 River Des Peres Project

St. Louis, Mo.—Contract for section F of the River Des Peres drainage work was awarded to the Stiers Brothers Construction Company, St. Louis, on a bid of $970,404. This work will embrace the construction of approximately 5000 feet of 32-foot reinforced concrete sewer, generally in the bed of the River Des Peres, at a depth of about 20 feet below the stream bed, all of the lower portion of the excavation being in rock. In part the work involves the lowering of the stream through existing culverts founded on rock, and the construction of new bottoms at a low level.

Outlining the progress of construction on the River Des Peres drainage project, which is estimated to cost about $11,000,000 in its entirety, W. W. Horner, chief engineer of the Sewers and Paving Division of the city, states that section F is the last of the closed sewers, while the open channels embracing section H and the greater part of section G, are under contract as far west as Gravois Road. There remains only to be awarded the remainder of section H and the final completion of section J. After initial difficulties, section A was taken over by the city and re-let to and completed by the J. J. Dunnegan Construction Company, St. Louis, which firm also constructed a part of section B. The remainder of section B and section C were constructed by the W. E. Callahan Construction Company, St. Louis, which has also constructed section E. Section D is being completed by A. Guthrie & Company, St. Paul, Minn. Section G-H is under contract to R. J. Blackburn Construction Company, St. Louis.

IRON, STEEL AND METAL MARKET

Steel Production Slowly Increases—Prices Irregular

Pittsburgh, January 6—[Special.]—After a particularly light Christmas week and a low December average, steel production is increasing, although somewhat slowly. December production is difficult to estimate but was probably in the neighborhood of 55 per cent, while an estimate of 60 to 65 per cent for January is conservatively low. Precedent indicates increasing production to a peak in March or April but the present appraisal is that the peak will be reached later, with a relatively slow increase.

One fortunate thing about the stock market panic is that it came when it did, not disturbing autumn business, which had been largely arranged, and allowing time for quite a thorough liquidation by the year-end. There is nothing further to liquidate and opportunity is afforded for trade to respond to the usual seasonal influence and increase after January 1. All the depressing influence has already been felt, the bad news is all out and everybody becomes cheerful by reason of the trend being in the right direction even though it is milder than usual and no one expects the remarkable tonnage achievements of 1929 to be duplicated in 1930.

Steel prices are not in secure position, there being some irregularities in addition to a few outright declines. The fact that steel prices did not advance materially in the early part of 1929 when there was demand taxing the capacity of mills is used for arguments of opposite character. Sellers claim that when prices did not advance then, when apparently there was opportunity to put them up, they should in fairness be allowed to stay where they are. The opposite argument is that when even conditions as to demand did not make the market strong enough to advance, it is now not strong enough to resist declines.

In the past week tin plate and automobile sheets have declined specifically $2 a ton and blue annealed sheets have weakened to a price range with a prospect that shortly the higher figure in the range, the old market price, will disappear. There had been more or less suspicion that when enough business should be done in automobile sheets to make a real market there would be a decline, and this occurred though even at that the orders secured by mills were not large. The drop was from 4.00 cents to 3.90 cents, following a decline of similar size which began late in August. Until the past week blue annealed sheets were at 2.20 cents, 10 gauge base, on regular blue annealed sizes, narrower sizes being sold at lower prices in competition with strips. Shading on regular sizes developed, making the market quotable at 2.10 cents to 2.20 cents.

The regular seasonal announcement of the tin plate price was made November 15, the $5.35 price of a year ago being reaffirmed, this being per base box, Pittsburgh, for 100-pound cokes. Much of the contracting was done in regular form, the largest consumers being given quantity differentials as formerly, but on the Pacific Coast there was much cutting. Then, just recently, cutting developed elsewhere both by mills taking accounts from each other and by a larger number of buyers being given an inside price or quantity differential. On the morning of the last day of the year the American Sheet & Tin Plate Company (Steel Corporation) met the situation by announcing a formal reduction in its price, from $5.35 to $5.25. Prompt action was desirable as early in January every year the American Can Company announces its season prices on cans, based on the tin plate market ruling at the time.

In strips there has been some weakness in that while regular open market quotations are maintained moderate sized buyers are given inside prices formerly given only to very large buyers. In time this may lead to a lower open market. Nails are said to be firm now at $2.40 to large jobbers, which would represent an advance. Bars, shapes and plates remain quotable at 1.90 cents but do not seem overly firm. Pipe is perfectly steady.

Metals Had Satisfactory Year—Outlook Favorable

New York, January 6—[Special.]—Most of the metal producers have enjoyed a very satisfactory year and the new year is entered with prospects fairly bright. Perhaps what James A. Farrell said about the steel industry: "The year 1930 will be an average good year" will apply to the non-ferrous metals as well. Copper consumption in 1929 has been about 7 per cent greater than for the preceding year, which has come to be regarded as the normal increase as the world uses more copper per capita and at the same time, as the world's population increases.

It has been one of the most prosperous years on record for the copper producers. At the start of the year the price was 16½ cents per pound, then rose rapidly to 24 cents in March, whence there was a steep decline to the present quotation of 18 cents per pound, which has prevailed since the middle of April, the longest period of price stability that copper has ever known. The average cost of copper production is 9 cents per pound and hence the large margin of profit is apparent. The present price of copper compares with a 30-year average quotation of 16½ cents.

Zinc has been at the other end of the scale as regards satisfactory conditions. Zinc stocks have become the largest in several years. Zinc prices at London are the lowest in 20 years. The stabilising scheme for zinc prices fell down badly during the past fall and the international zinc cartel came to grief when it was virtually disbanded last month. Yet much zinc was sold during the year, particularly to the steel industry, which enjoyed record production.

The course of tin prices has been steadily downward all year and for a time the past fall prices were the lowest in six years. The past year's happenings in tin in reality date from 1926 when the abnormally high price of 73 cents per pound was reached. At this time a tin famine was being talked of. From then on production was steadily speeded, producers having been anxious to take advantage of the high prices then prevailing. The result has been of course that production was excessive and this was felt the most keenly over the past year.

Business in lead has been of the steadiest and most wholesome throughout the year. There were some rather severe price declines in the fall though in a way this proved beneficial for it caused the closing of less profitable mines and balanced production with consumption. Automobile production was 1,000,000 cars greater than for the preceding year, which accounted for the use of much lead in battery form. There was a tremendous demand for lead from the makers of lead-covered cables. Demand from the pigment makers was not as good proportionately as in other lines because of the falling off in the building industry.

As for the prospects for metal consumption during the first quarter of this year, the public utility companies and electrical manufacturers are expected to be in the lead. The railroads will also do much electrifying. The Pennsylvania is already asking bids on the steel for transmission towers from New York to Trenton for such electrification work and it is probable that other equipment will be called for shortly, involving large amounts of copper.

The automobile industry should be

picking up in activity after the January automobile shows. There is already a little better demand for steel from this source, though mostly for prompt shipment. Building will probably continue slow for some time to come. Some of the non-ferrous metals will suffer more keenly from the use of substitutes, chiefly stainless, or rustless, steel, demand for which increases by leaps and bounds.

As for the past week, business has been slow, as would be expected for the season. The feature has been the sharp decline in the price of silver, which has dropped to around 46½ cents per ounce. The decline was believed due in large measure to the collapse of a pool in Shanghai, which had been supporting the silver market.

A new reason has been advanced why the copper producers are so anxious to hold prices to present levels. This is that a reduction at this time might set a precedent for the next three years and that a reduction would therefore mean a loss of several millions of dollars to the copper company shareholders. The time is nearly here when a real test of the copper market will be afforded. December production statistics will show the extent of curtailment and by the end of this month a buying movement should have started which will gauge the potential demand. Export sales are 1,000 tons daily and domestic sales about 300 to 400 tons per day.

The zinc market has turned quiet again though sales during December were the best in several months. Zinc ore production week before last was at the lowest of the year. Stocks of slab zinc at the end of the year were 63,000 tons, or enough for six weeks' consumption, which is regarded as too large.

American tin deliveries last month were 5,740 tons, a small total, implying lessened consumption. The world's visible supply of tin gained 2,969 tons to 28,140 tons, one of the largest increases on record. Straits tin shipments were less than predicted at 8,950 tons.

Rock Island 5000-Car Order

Recent orders of the Chicago, Rock Island and Pacific Railway Company, L. A. Richardson, general superintendent of motive power, Chicago, Ill., for 5000 freight cars, were distributed as follows: 1000 automobile 40'6", 40-ton cars, Bettendorf Company, Bettendorf, Iowa; 500 automobile 50'6", 40-ton, Standard Steel Car Company, Hammond, Ind.; 1000 box, 40'6", 50-ton, American Car & Foundry Company, St. Louis, Mo.; 500 box, 40'6", 50-ton, Pullman Car & Manufacturing Corporation, Michigan City, Ind.; 1000 gondola, 48'6", 70-ton, Pressed Steel Car Company, Hegewisch, Chicago; 250 stock, 40', 40-ton, and 250 flat, 46', 50-ton, Ryan Car Company, Hegewisch, Chicago.

Railroad Orders 39 Locomotives

The Baldwin Locomotive Works, Philadelphia, have received an order from the Southern Pacific Company for 39 locomotives, to include 25 combination passenger and freight engines and 14 passenger engines. The order will involve an outlay of $4,130,000.

Contract for Rail Line

Millard, Ky.—Contract has been awarded to Langhorne & Langhorne, Huntington, W. Va., by the Chesapeake & Ohio Railway Co., C. W. Johns, chief engineer, Richmond, Va., to build a 28-mile branch of the Levisa River Railroad Co., a subsidiary, between Millard and the Virginia-Kentucky border. A bridge will be constructed across the Levisa River a short distance below Russell Fork, and it is understood that the new line will leave the main line of the Big Sandy division of the C. & O. at that point and continue up the left fork of the river. The Chesapeake & Ohio is also actively securing right-of-way for a 15-mile branch line in the vicinity of Johns Creek, Ky., to connect with the main line near Bigshoal, five miles below Pikeville, and extend up Cow Pen to Johns Creek and connect with the Levisa spur by way of Big Creek.

TEXAS RAIL PLANS APPROVED

Examiner Recommends Construction of 159 Miles to Cost $6,302,000

Washington, D. C.—A report filed with the Interstate Commerce Commission by Examiner Thomas F. Sullivan approved plans of the Chicago, Rock Island & Pacific Railway Co., the St. Louis-San Francisco Railway, and the Atchison, Topeka & Santa Fe Railway System for the construction of rail lines in Northwestern Texas and the Texas Panhandle. Proposed construction would embrace a total of 159 miles and would cost approximately $6,302,000, it is said, the Frisco program calling for an extension of its road from Vernon to Seymour, a distance of 42 miles. The Rock Island would build a line from Shamrock to a connection with the Frisco's Vernon-Seymour extension, a distance of 108 miles, at an approximate cost of $4,217,000, and the Santa Fe would build a 9-mile extension from Healdton to a point east of Le Fores.

$2,500,000 SHEET MILL PROJECTED

Gulf States Steel Company Building Big Unit and Replacing Others

Gadsden, Ala.—Plans have been completed for a $2,500,000 sheet mill here for the Gulf States Steel Company and contract is expected to be awarded soon. It is announced that a mill of the type of the American Rolling Mill Company, Middletown, Ohio, will be installed and that the plant will roll ARMCO iron under an agreement with that company, owner of the patents. Production is intended for distribution in the South, it is said. The Gulf States Steel Company recently completed foundations for a universal plate mill and is making a fill 1100 feet long, 100 feet wide and about 16 feet deep to provide a floor where the rolls will be installed. The installation of a new $1,000,000 blooming mill is progressing, plans calling for the suspension of work at the old mill about February 1, after which the new mill will be completed and started. This will require about 45 days. Anticipating the shut-down, the company's six open hearth furnaces and the blooming mill are operating at capacity, but they will not be able to lay in a stock, it is said, and the company is now purchasing billets from the Tennessee Coal, Iron & Railroad Company, Birmingham.

Photographic Plates on Untreated Metal

A discovery that photographic impressions may be stamped directly upon the surface of untreated metal, announced recently at Cornell University, opens up a large and interesting field for experiment and for speculation as to its effects upon commercial photography. The discovery was made by Dr. P. H. Carr, a graduate student from Gaffney, S. C., while studying the sensitivity of photographic plates to electron rays. It occurred to Dr. Carr that polished metal plates might pick up impressions of the electron beams, and when he tested the possibility he found that not only did the plates make such records, but that under the electrons some metals were almost as sensitive as photographic films, and for very low velocity electrons, much more sensitive.

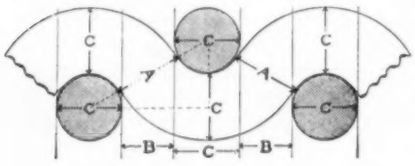
To Expend $1,843,000

Clarksburg, W. Va.—According to Wallace B. Gribble, superintendent, the Hope Natural Gas Company plans to expend a total of $1,843,000 in West Virginia during 1930. It is estimated that new construction will involve an outlay of $1,300,000 and improvements and additions, $543,000.

NEW AND IMPROVED EQUIPMENT

Steel Wire Screen

The Ludlow-Saylor Wire Co., St. Louis, Mo., announces a 50 by 50 mesh steel wire cloth made of No. 33 W & M gauge wires, an exceptionally heavy wire cloth. Diameter of the wires is 44 per cent



Magnified Screen Section

larger than the nominal opening between wires as listed in the literature of the company. Ludlow-Saylor manufacture a full line of wire cloth and woven wire screens in all grades and meshes and in all commercial metals and alloys.

Greiman Trench Supporter Is Announced

Anticipating the needs of trench contractors, the Greiman Ditcher Co., Minneapolis, Minn., began the development five years ago of a practical machine for eliminating cave-ins without sheathing or bracing. After study and experi-

For Use With Any Style Trencher

mentation, the company announces that its engineers have perfected a practical trench supporter that may be used with any style trencher. Lowered into the trench, it travels under its own power and supports the trench walls from cave-ins, and permits pipe to be laid in an apron or shoe at the rear of the supporter as fast as the trench is opened. The body of the supporter is constructed of heavy steel plate and the machine may easily be lowered into the trench by power, either end independently, by means of rack and pinion. A crawler unit on the bottom, together with two expandable crawler units on the side furnish irresistible traction, it is claimed, being driven by a four-cylinder motor within the machine. The rear apron or shoe, in which the pipe is laid, is made of detachable four-foot sections to take care of any length sewer or water pipe. Dirt falling in front of the supporter is cleared up by a plowing device in front and raised to the trench buckets. Speed in the trench may be regulated from six inches to eight feet per minute, corresponding with the speed of the trencher with which it is used. Out of the trench, the supporter is balanced by sturdy two-wheel trucks at each end and it has a road speed of two miles per hour.

Four Trackson Products Make Initial Appearance

Four entirely new machines, the Trackson Crawler for the 15-30 McCormick-Deering tractor, Trackson Crawler wheels, the Trackson hoist and the new Trackson shovel, will be introduced by the Trackson Co. of Milwaukee, in its display at the Road Show in Atlantic City.

While the new crawler for the 15-30 McCormick-Deering is typically Trackson design, it is yet a distinctive type and has a number of special features claimed to be entirely exclusive. It is designed for highway and general contracting work, and will have a wide range of usefulness for other fields.

In producing the new Trackson crawler wheels, the company had in mind the needs of dirt moving contractors, loggers, oil field operators, cane growers and others who haul in difficult ground conditions and who, therefore, need crawlers on wagons as well as on tractors. According to R. D. Houghton, manager of the Trackson Crawler Wheel Department, these wheels can readily be mounted on various types of wagons, and it will be the company's purpose to furnish them to manufacturers of such equipment. They will be produced in four sizes, with 6, 10, 15 and 20-ton load capacities, respectively.

The Trackson hoist was designed by J. E. Dale, well known as an authority on hoists. Mr. Dale, in connection with Trackson engineers, spent nearly three years in designing, building and improving the hoist, and for eight months the machine has been subjected to rigid operating tests. It is of all-steel construction, with several patented exclusive features, making it an ideal hoisting equipment, designed for mounting either on Trackson crawlers or on wheel tractors.

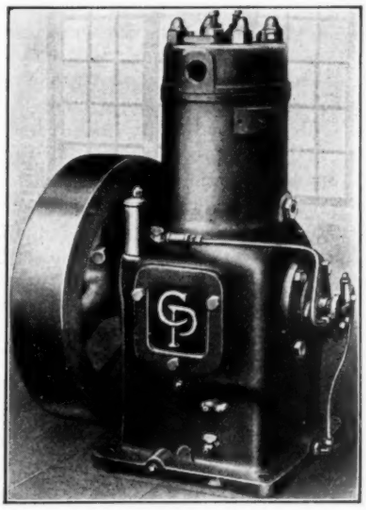
The Trackson shovel is described as the very latest in excavating and material handling equipment, built by Trackson engineers after a thorough study of needs of contractors, industrial plants and others. Its outstanding features are strength of construction, sharp cutting edge, enabling the bucket to dig into hardpan, rocky soil, etc.; simplicity of operation; interchangeability with the Trackson bulldozer and crane, and low overhead clearance. The latter is specially important for material-handling operations in industrial plants where the unit works indoors as well as in the yards. The new shovel will be displayed at the Road Show mounted on a Trackson Crawler-tractor.

The New Trackson Shovel

Vertical Power-Driven Compressors

Supplementing an extensive line of compressors of larger capacities, the Chicago Pneumatic Tool Co., New York, is manufacturing a line of machines with piston displacements of 17½, 23 and 41 cubic feet per minute, suitable for 150 pounds maximum pressure. These compressors are designated as type P6 Chicago Pneumatic vertical simplex power-driven, and are available in a number of drives. Trouble-free operation is secured by durable and efficient Simplate flat disc air valves, by a reliable and economical automatic system of lubrication and by excellence of construction.

Cylinder and crank-case are cast in one piece, with large hand holes provided in the latter for dismantling the recip-

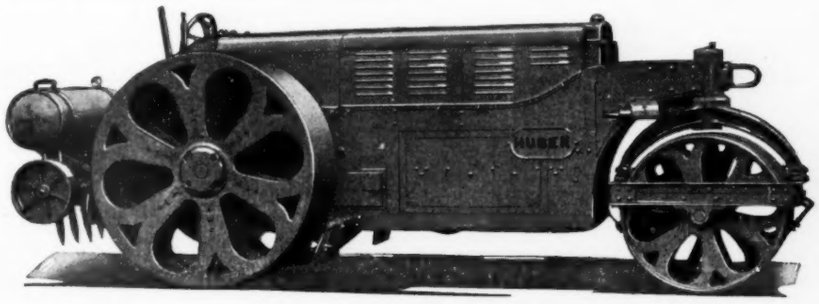


Circulating Water Cooled Type

rocating parts assemblies. Cylinder head is separate and contains the inlet and discharge valves, specially adapted to high-speed operation. On the air-cooled compressors, radiation fins are cast on both the cylinder and the head, and on the water-cooled compressor, water jackets extend completely around the cylinder bore and around the head. Main bearing housings are bolted into bored openings in the crankcase, while main bearing bushings are die-cast, removable, babbitt shells of liberal area. The piston is made of hard, close-grained cast iron turned and ground to exact size, with a piston pin of hardened and ground steel. Connecting rod is an open hearth steel drop forging fitted at the piston end with a bronze bushing and at the crank end with removable die-cast babbitt shells. Crank-shaft is an open hearth steel forging turned and ground. A small gear type pump driven by the crank-shaft supplies oil to the main bearing and to oil splash troughs into which oil throwers on the connecting rods dip, creating a mist of oil which lubricates the cylinder walls and connecting rod bearings. Motor driven compressors may be equipped with automatic start and stop control where the demand for air is intermittent. A rigid cast iron sub-base is standard equipment for the direct-connected motor driven machines and for the gasoline- and kerosene-driven units.

Huber Motor Rollers

The Huber Manufacturing Company, Marion, Ohio, manufacturers of road maintainers, road tractors, motor and steam road rollers, will exhibit a 10-ton and a 5-ton four-cylinder motor roller at the Road Show in Atlantic City. Both rollers will be equipped with new improved scarifiers.



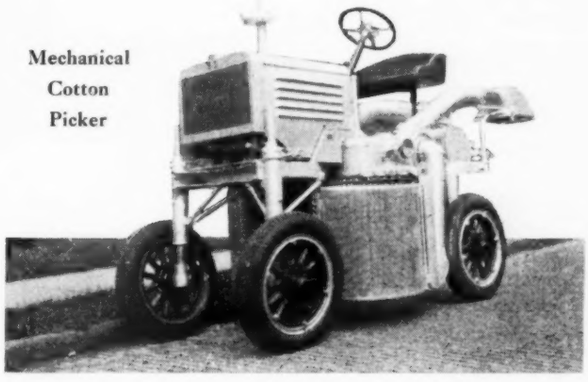
Equipped With New Type Scarifier

Machine for Picking Cotton Built Along Automobile Lines

A mechanical cotton picker produced by the Cotton Harvester Manufacturing Co., Pittsburgh, Pa., is said to pick over 80 per cent of the ripened cotton in going over the rows the first time, without injuring the plant and without damaging the unopened bolls. On the forward part of this machine, which is about three-quarters automobile, is the picking equipment consisting of two drums with a large number of spindles. As the machine moves ahead, these spindles enter the plant, revolve and gather the cotton. A vacuum process draws the cotton from the spindles into bags at the rear of the machines. These bags, when filled, are removed by a helper who replaces them with empty containers. This operation requires about a minute and usually takes place at the ends of the rows.

In tests made on plantations near Greenville, Miss., the company announces that the machines picked about 200 pounds of cotton in 15 minutes, which is about 50 pounds more than the average hand picker is said to accomplish in a day. These tests showed that about 94 per cent of the cotton was picked by going over the rows twice. Officials also point out that the machine may be operated day and night to get the bulk of the cotton while it is white, fluffy and not stormblown.

Mechanical Cotton Picker



A carload of cotton was recently picked by this machine on the farm of Dr. Hugh A. Gamble, near Greenville, Miss.

Hiram Newton Berry, formerly of Greenville, and now deceased, was the inventor of the machine. Charles R. Berry and Louis E. Wirth have devised improvements embodied in the present picker.

$1,700,000 Irrigation Bonds

Donna, Tex.—A bond issue of $1,700,000 has been voted by the Donna Irrigation District to carry out plans for an extensive system of drainage and to concrete canals of the district to conserve water and prevent damage from seepage.

AVIATION, AIRPORTS AND AIRWAYS

PLANES FLY 84,000 MILES DAILY

30 Passenger Lines Maintain 178 Daily Schedules

Washington, D. C.—Planes in scheduled air mail and passenger service in the United States are flying more than 84,000 miles daily and making 206 stops, according to the quarterly report of the American Air Transport Association, which points out that more than 20,000 miles are being flown at night, made possible by blinker lights and flashing beacons along 10,183 miles of a total of 29,227 miles of charted air lanes. Approximately 3000 additional miles are now being equipped with lights and radio devices. A total of 178 regular daily schedules is maintained by 30 passenger lines flying between definite points, while air mail is being carried by 19 lines and a score of both mail and passenger carriers are engaged in air express operations. The open plane, in wide use about a year ago for the transport of passengers, has given way to the cabin plane and capacities have been increased from a maximum of 10 passengers to 18, 22 and 32 passengers. Open planes have been developed for air mail and express with a carrying capacity of 2000 pounds and a cruising speed of 135 miles an hour.

St. Petersburg Airport Activities

St. Petersburg, Fla.—Equipment for an airplane plant to be established at the Grand Central Airport of Florida, which is being developed on Weedon's Island by Blair & Co., Inc., of this city, is expected to be shipped from the plant of the Luthy Airport Co., Jackson, Mich., within a short time. A building 40 by 80 feet will house the plant, the structure to be moved from another location. Contract was recently awarded by Blair & Co. to Louis Z. Kent for surfacing runways 81 feet wide with a graded clearance of 200 feet. Four runways will be provided—2650 feet, 1850 feet, and two, 1625 feet.

New Type Runway for Seaplanes

A new system of constructing seaplane runways is to be employed in building the seaplane ramp at the hangar now under construction at Miami, Fla., for the Viking Flying Boat Co. By the new method, devised by O. A. Sandquist of Sandquist & Snow, Miami, contractors for the hangar, utilization to the utmost is made of precast and prebuilt units, so as to minimize underwater work and also to cut down the time required for installation. The main skeleton frame of the structure can be built of wood on land and floated into position, says the inventor. Then precast concrete slabs of sufficient number to overcome buoyancy of the frame are slid down the runway frame, sinking to a required position on the main frame, which is subsequently shackled to supporting piles previously driven. Flooring of the sub-aqueous portion of this anchored runway frame is accomplished by sliding built-up wood laminated sections into a slot on the frame until the work up to water level is completed. Construction of that part of the runway above the water can be continued by ordinary methods.

Airway Activities in South

Washington, D. C.—The airways division of the Department of Commerce is making surveys of five airways preparatory to placing them in operation. The San Antonio Waco section of the Brownsville-Fort Worth airway is being surveyed for intermediate fields and beacon lights, preliminary surveys indicating that intermediate fields will be located near San Marcos, Georgetown and Belton, Tex. A survey of the Brownsville-Houston airway is practically complete and the Brownsville-Kingsville section of this route will be lighted as soon as contracts can be awarded. The Kingsville-Houston section will also be lighted in the near future. A survey is being made on the Norfolk-Washington airway for intermediate fields and lights, and beacon sites and airports along the Miami-Jacksonville section of the Miami-Atlanta airway are being inspected. The Columbus-Philadelphia airway is also being surveyed for intermediate fields and lights. Nine towers have been erected on the Miami-Jacksonville section of the Miami-Atlanta airway and contract will soon be awarded for work on the Washington-Pittsburgh section of the Washington-Cleveland airway. Revolving beacon lights are expected to be delivered to the Pittsburgh-Cleveland section of the latter line. Construction is progressing on the Buffalo-Albany section of the Cleveland-Albany airway; Atlanta-Chattanooga section of the Atlanta-Chicago airway; Chattanooga-Nashville; Nashville - Evansville; Brownsville - Fort Worth; Albuquerque-Wichita; Los Angeles - Albuquerque; Salt Lake - Great Falls, and San Francisco-Seattle. Contract for construction work on the New York-Albany section of the New York-Montreal airway has been completed, and flashing lights operated by wind-electric plants will be established at the 34- and 41-mile stations on prominent elevations along the Hudson River. Two standard revolving beacons will be installed at points of 10 and 20 miles west of Indianapolis, and two intermediate fields are being located at Boscobel, Wis., and New Albin, Iowa, on a direct line between Chicago and Rochester, Minn.

Plane to Be Used by Widely Known Manufacturer of Small Electrical Tools in Promoting Sale of Its Products

Purchase of a Travel-Air six-place, cabin monoplane has been made by the Black & Decker Manufacturing Co., Baltimore, to further the company's portable tool interests in the aviation industry. Equipped with a complete set of electric tools widely used in the manufacture and maintenance of aircraft, the plane will make a tour of airports and aircraft producing plants throughout the country. Officials of the company state that the aircraft industry is a large consumer of Black & Decker products and this method has been adopted for contacting with the market.

Lieut. W. L. Snowden, of the Curtiss-Wright Flying Service, Inc., Baltimore, through which organization the purchase was made, piloted the plane from the Wichita, Kansas, plant of the Travel-Air Manufacturing Co.

CONSTRUCTION DEPARTMENT and NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Airports, Airplane Plants, Etc.

D. C., Washington—Standard Aircraft Co., Reuben H. Reiffen, Chmn., recently formed, acquired control of Atlantic Seaboard Airways, 1716 H St., N. W., holding company controlling Potomac Flying Service, International Airways, Haines Point Seaplane Service, Gettysburg Flying Service and Hoover Field, Inc.

Fla., Tampa—City, C. M. Fuss, City Electrician, City Hall, let contract to Shaw Electric Co. for installing lighting system at airport, including 64 boundary and obstruction lights, revolving beacon, ceiling light, illuminating wind cone; field to be illuminated by General Electric ALH 24 kw. unit. 12-19

La., Lafayette — City completed negotiations for acquiring airport site; now begin grading. 10-31

La., Lafayette — City, J. G. St. Julien, Mayor, acquired airport site; begin leveling at once; to be dedicated in March or April.

La., New Orleans—S. A. T. Flying Service, Fort Worth Natl. Bank Bldg., Fort Worth, Tex., William K. Ennis, Div. Mgr., subsidiary of Aviation Corp., 122 E. 42nd St., New York, expend $20,000 lighting Menefee Field for night flying; begin work at once.

La., Shreveport — Sullivan Aircraft Mfg. Co., B. Whittle, Wichita, Kan., negotiating to establish airplane plant..

Md., Cumberland—Mountain State Aircraft Corp., capital $25,000, incorporated; P. A. Williams, Windsor Rd.

Tenn., Knoxville — City, Geo. Dempster, Mgr., City Hall, has preliminary plans in progress for $25,000 hangar at McGhee Tyson Airfield: 1 story, sheet metal on steel frame; Harry Wight, City Engr.

Tex., Del Rio—City, John Y. Long, Mayor, acquired 126 acres for airport.

Tex., Midland—City, Harvey Sloan, Mgr., construct Army hangar, administration building, radio station, meteorological station, and barracks for Army.

Va., Langley Field, Hampton—Consolidated Aircraft Corp., R. P. Whitman, Asst. Gen. Mgr., 2050 Elmwood Ave., Buffalo, N. Y., advises leased part of 1 of Army seaplane hangars here for assembling Consolidated "Commodores" during winter season; no new construction involved. 1-2

Va., Winchester—City plans airport.

Bridges, Culverts and Viaducts

Proposed Construction

Alabama—State Highway Comn. received low bid for 7 bridges. See Roads, Streets, Paving.

Alabama—State Bridge Corp., Montgomery, plans expending $2,000,000 to complete toll bridge construction program, and like amount for maintenance.

Ala., Mobile—Mobile County Bd. of Revenue plans letting contract soon for bridge over Three-Mile Creek. 11-7

Ark., Batesville—City Council considering conc. bridge across Polk Bayou, connecting Central Ave., West Batesville and Spring St. in business section of Batesville, cost about $60,000.

Ark., Saint Francis—War Dept., Washington, approved modified plans, St. Louis, Southwestern Ry., W. S. Hanley, Ch. Engr., Tyler, to reconstruct bridge across St. Francis River.

Fla., Sarasota—State Road Dept., Tallahassee, preparing plans for bridge across Myakka River, Sarasota; B. M. Duncan, State Highway Engr.

Fla., St. Petersburg—See Railways.

Ky., Covington—Louisville & Nashville R. R. Co., W. M. Courtenay, Ch. Engr., Louisville, plans expending about $365,000 for 2 underpasses and one viaduct at Covington.

Louisiana—Louisiana Highway Comn., Baton Rouge, receives bids Jan. 21 for 24 bridges: Lafourche and St. James Parishes—bridges over Grand Bayou and over Bayou Chevruil on Thibodaux-St. Patrick Highway; Bienville Parish—8 creosoted pile bridges between Mt. Lebanon and Sailes; 4 creosoted pile trestles between Bryceland and Sailes; Sabine Parish—8 creosoted pile bridges between Many and Marthaville; Grant Parish—rein. conc. pile trestles over Rocky Bayou and Bayou de Gape, Aloha-Colfax Highway; H. B. Henderlite, State Highway Engr.

La., New Orleans—Allen S. Hackett, Consult. Engr., advises, George A. Hero and Allen S. Hackett, 511 Whitney Bldg., promoters of Hero-Hackett traffic bridge across Mississippi River, New Orleans: H. M. Byllesby & Co., financiers, 231 South LaSalle St., Chicago, engaged Waddell & Hardesty, 150 Broadway, New York City, as Consult. Engrs. 12-26

La., New Orleans — Louisiana Highway Comn. plans receiving bids about June 1 for 2 conc. pile trestle bridges over Bonnet Carre Spillway, 7000 and 9000 ft., respectively; 40-ft. conc. roadway, earth embankment conc. pavement: 36,900 cu. yd. rein. conc., 8,300,000 lb. rein. steel: estimated cost $2,000,000; H. B. Henderlite, State Highway Engr. 12-28

Md., Baltimore—City, Charles F. Goob, Ch. Engr., will ask State Roads Comn., Baltimore, to design and build proposed 1800 ft. bridge and approaches across Gwynn's Falls, extend Baltimore St. from Ellicott Driveway to Hilton St., bridge to span valley and Western Md. Ry. Co. tracks; pass under tracks of Pennsylvania R. R., cost $400,000; approaches and paving to cost $150,000; Nathan L. Smith, City Highways Engr.; G. Clinton Uhl, Chmn., Roads Comn. 8-15

Md., Baltimore—City, Henry G. Perring, Consult. Engr., Court Sq. Bldg., announces plans completed for Pennington Ave. bridge across Curtis Creek; Bascule type, 1400 ft. long, 40-ft. roadway, two 6-ft. sidewalks; estimated cost $800,000 to $1,000,000; replace present wooden structure; Charles F. Goob, Ch. Engr.; widen Pennington Ave. and change into boulevard; Wm. F. Broening, Mayor; bids about Feb. 1. 12-26

Miss., Inverness—War Dept., Washington, D. C., approved revised plans Sunflower County Bd. of Supvrs., Indianola, for 551-ft. bridge across Big Sunflower River at Kinloch Ferry, west of Inverness; revised plans provide for slight change of location of proposed bridge and changes in approaches.

Miss., Grenada—Grenada County Bd. of Supvrs., Kemp Mattingly, receives bids soon for conc. bridge on Highway No. 51, north of Grenada; estimated cost $75,000.

Okla., Hobart—See Roads, Streets, Paving.

Okla., Oklahoma City—Oklahoma County, Walter DeGraffenreid, Commr., plans 3 bridges and culverts: Hogback road south of Luther; Wichita shortcut on Edmond road, north to county line; Sixty-third St. from May Ave. to Edmond Ave.

Okla., Oklahoma City — City considering bridge and viaduct. See Roads, Streets, Paving.

Okla., Tulsa—City Comn., Dan W. Patton, Mayor, receives bids Jan. 14 for Cincinnati Ave. overpass, in connection with proposed Union Station, being combination of elevated street and ordinary overpass; K. R. Teis, Engr. 10-3

Tennessee—Dept. of Highways and Public Works let contracts for 4 bridges. See Roads, Streets, Paving.

Tenn., Chattanooga—Hamilton County provides $100,000 toward bridge over Chattanooga Creek, connecting Market St. extension program; Will Cummings, County Judge.

Tenn., Knoxville—Knox County Highway Comn., probably receive bids middle of Feb. for Solway and McKee Ferry bridges; Freeland-Roberts & Co., Engrs., Independent Bldg., Nashville, prepared plans. 1-2, under Tennessee.

Tenn., Knoxville — City, Lee C. Monday, Chmn. of Bridge Committee, 904 Island Home Ave., reported, will select engineer about Feb. 1 for 1448-ft. bridge 54 ft. wide over Tennessee River at Henley St.; cost about $1,000,000. 11-7

Tex., Amarillo—Potter County considering steel and conc. underpass under Santa Fe Ry. crossing, Highway No. 33, east of Amarillo.

Tex., Dallas—State Reclamation Engr. and Bd. of city and county of Dallas Levee Improvement Dist. approved preliminary plans of Texas and Pacific Ry., E. F. Mitchell, Ch. Engr., Dallas, for bridge across Trinity River, Dallas: Steel spans on conc. piers; crossing about 13 ft. higher than present bridge; cost $900,000, not including approach fills. 12-12

Tex., Houston — City, W. E. Monteith, Mayor, considering conc. bridge across Buffalo Drive, replace old Southern Pacific wooden trestle; estimated cost $9,000; H. L. Shaw, City Engr.

Tex., Port Arthur—Jefferson County, B. B. Johnson, County Judge, Beaumont, receives bids Jan. 20 to rebuild 161-ft. steel bridge, 18-ft. roadway on old pier over Taylors Bayou, steel girder swing span; estimated cost $20,000; J. B. Converse & Co., Engrs., Mobile, Ala., and Port Arthur. 12-26

Tex., San Antonio—City Comn., Fred Fries, Clk., considering rein. conc. and steel bridge on Twenty-fourth St. across Elmendorf Lake; widen present spillway and bridge on Cincinnati Ave. over Alazan Creek, etc.; I. Ewig, City Engr.

Tex., Woodville — State Highway Dept., Austin, F. B. Mason, Res. Engr., preparing plans for 2 bridges in Tyler County: Over Neches River, Highway No. 40, at Rockland; over Neches River, Highway No. 45, at Town Bluff.

W. Va., Spring Hill—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, Va., authorized rebuilding Upton Creek Arch at Spring Hill; estimated cost $31,000.

Contracts Awarded

Ga., Atlanta—Nashville, Chattanooga & St. Louis Ry., Hunter McDonald, Ch. Engr., Nashville, Tenn., let contract Virginia Bridge & Iron Co., Madison Ave., N. E., Roanoke, Va., for fabrication, and MacDougald Construction Co., 545 Angier Springs Rd., Atlanta, for erection of steel viaduct over railroad yard; asphalt on conc. deck, roadway; 40x350 ft. irregular plaza. 12-26

Miss., Macon — Noxubee County Bd. of Supvrs. let contracts to Paul Stephenson for conc and other types of permanent bridges in county; replace wooden structures. 12-19

Mo., Neosho — T. H. Cutler, Ch. Engr., State Highway Comm., Jefferson City, approved bid of M. E. Gillioz, Monett, at $51,046, for highway bridge over Shoal creek at Redings Mill; 351 ft. long, including two 33-ft. deck girders on approaches at either end; three 95-ft. arches; 20-ft. wide roadway, 5-ft. sidewalk. 1-2

Mo., Troy—Vincennes Bridge & Iron Co., Vincennes, Ind., has sub-contract to furnish 400 tons fabricated struct. steel and erect steel span highway bridge on rein. conc. piers and abutments.

Va., Norfolk—City, W. H. Taylor 3rd, Dir. of Public Works, let contract to Atlantic Bridge Co., Jefferson Bldg., Greensboro, N. C., for conc. bridge across Lafayette River, Granby St. 12-12

W. Va., Charleston — Kanawha County Court, R. N. Moulton, Clk., let contract to Penn Bridge Co., Beaver Falls, Pa., for superstructures of 4 bridges: at Mammoth, Burnwell, Ash Camp and Tom's Branch; to Harry Hatfield, Barboursville, for substructures of Ash Camp and Tom's Branch bridges; to Orient Prairio, Danville, $5,492, for substructure of Burnwell bridge. 12-12

Canning and Packing Plants

Fla., Pompano — Claude Radcliff approved plans and will soon let contract for canning plant between Fourth and Fifth Sts.; 2 story, 40x100 ft.; loading platform 8 ft. wide, 150 ft. long; install modern equipment. 12-12

Fla., Winter Haven—Seaboard Air Line Rwy. Co., Norfolk, Va., W. D. Faucette, Ch. Engr., Savannah, Ga., reported, erect addition to packing plant; 1 story, 123x120 ft., corrugated metal and iron, cost $25,000; W. G. Roe, Lessee; Bland & Foster, Contr., Winter Haven.

La., Lafayette—B. F. Trappey & Sons, Jeanerette, reported, establish canning plant.

Miss., Columbia—Budlong Pickle Co., 1840 Maury St., Chicago, Ill., reported, plans pickle plant; cost $15,000.

Tex., Natalia—Griggs Canneries, Inc., F. E. Griggs, New Albany, Ind., reported, establish cannery.

Coal Mines and Coke Ovens

Tenn., Dayton—Tennessee River Coal Co., capital $20,000, incorporated; G. W. Nixon, Cornelius S. Williams.

Cotton Compresses and Gins

Miss., Ripley—Federal Compress & Warehouse Co., Cotton Exchange Bldg., Little Rock, Ark., reported, plans cotton compress.

Drainage, Dredging and Irrigation

D. C., Washington—U. S. Army Engrs., reported, practically completed surveys for proposed canalized waterway, Washington to Cumberland, Md., and connecting Ohio River at Pittsburgh, Pa., with tidewater; requries 27 dams, 4 to be power-navigating dams capable of supplying 1,000,000 kw. hours of prime power annually, costing approx. $60,000,000; plans call for 12-ft. channel in Potomac River, Washington to Cumberland and beyond Cumberland, 9-ft. waterway tunnel under mountains to Youghiogheny River, then through 3 locks and dams to mouth of stream at McKeesport, Pa.

La., Bossier City — Bd. of Commrs. of Greater Drainage Dist. of Bossier Parish, Bossier State Bank, rejected bids for constructing 4 open drainage ditches in Gravity Sub-drainage Dist. No. 1 of Gravity Drainage Dist. No. 1 of Parish of Bossier; take new bids in about 30 days. 12-12

La., New Orleans—U. S. Engr. Office, foot of Prytania St., let contract to Boone & Webster, Sellers, at 28 cents, for 8000 cu. yd. drainage diversion ditch, Bonnet Carre Lower Side Levee.

La., Rayne — Acadia Parish Police Jury soon votes on $75,000 bonds for completing present drains, cleaning old ditches and digging new ditches.

Maryland—Claiborne-Annapolis Ferry Co., Court of Appeals Bldg., Annapolis, opens bids Jan. 15 for dredging and constructing about ½ mi. of channel, 200 ft. wide, in Chesapeake Bay on shore of Kent Island; Kastenhuber & Anderson, Engr., Stewart Bldg., Easton. See Want Section-Bids Asked.

Maryland — U. S. Engr. Office, Custom House, Baltimore, let contract to Sanford & Brooks Co., South and Water Sts., Baltimore, at $25,342.24, for dredging 106,480 cu. yd. material from Broad Creek. 11-21

Tenn., Nashville—State Park & Forestry Comn. has low bid from Thompson & Moseley, Memphis, at 4.72 cents per cu. yd. for 997,000 yd. excavation on proposed drainage ditch, to extend, Reelfoot Lake to Obion River; action in few days.

Tex., Crockett—Houston County Levee Improvement Dist. No. 1, M. Bromberg, Chrmn., Bd. of Supervisors, Crockett, has plans complete for drainage ditch, requiring grading and excavating; construction work to be let locally; Beretta-Stiles Co., Inc., Engr., 1203 Natl. Bank of Commerce Bldg., San Antonio.

Tex., Point Isabel—Cameron County Water Improvement Dist. No. 14, S. K. Hallam, Sec., P. O. Box No. 31, Brownsville, advises proposed canal system includes 2 reservoirs with capacity of 18,000 acre ft. of storage, main canal about 15 mi. long, distribution by laterals over 15,000 acres, included in district, laterals to be "Gunited," pumps and equipment, with telephone lines connecting them, all accessories of complete irrigation system; several proposals under consideration; W. E. Anderson, Engr., San Bineto. 1-2

Tex., Port Arthur—Port Arthur Canal & Dock Co., subsidiary of Kansas City Southern Ry. Co., A. N. Reece, Ch. Engr., Kansas City, Mo., let contract to Gulf Co., Port Arthur, for deepening waterways here; cost approx. $40,000.

Va., Richmond—Col. Henry M. Jewett, U. S. Army Dist. Engr., Norfolk, approved James River Project, calling for expending $5,000,000 in cutting ship canals through 3 bands in river and deepening channel, Richmond to sea. 10-3

Electric Light and Power

Electric light and power work in connection, with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Alabama—Federal Power Comsn., Washington, reported, granted preliminary permission to Mississippi Power Co., Gulfport, Miss., for proposed water way development on Tennessee River near Riverton, Ala., in Tishomingo County, Miss., and Colbert and Lauderdale counties, Ala.; plans constructing conc. dam across river with power house and other facilities between government's navigation dam No. 1 at Wilson dam and Pickwick Landing. 8-2-1928

Arkansas—Arkansas Power & Light Co., Mississippi Power & Light Co., Jackson, and Louisiana Power & Light Co., 2 Rector St., N. Y., H. C. Couch, Pres., 401 Hardin St., Pine Bluff, plans expenditure of $13,000,000 during 1930; of that amount $70,000 will be expended in Pine Bluff in street railway system repairs and additions and in inauguration of motor coach service to suburban sections; $500,000 for work in Little Rock, including improvement of street railway system, expansion of Dixie substation in North Little Rock; additional power lines from Dixie station into Little Rock and improvements at Little Rock generating station; contemplated cost of extensions of distribution system to serve additional farming communities and in rice territory will be about $1,000,000. 11-29

Ark., Jasper—See Mining.

D. C., Washington — Potomac Electric Power Co., 14th & G Sts., N. W., receiving bids for substation, bids to be opened Jan. 13; contractors estimating are. Skinker & Garrett, 1719 I St., N. W.; Jas. Baird Co., 10th & B Sts., N. W.; C. Wohlgemuth, Jr., 1800 E St., N. W.; Davis, Wick, Rosengarten C.o, 2437 California Ave.; R. P. Whitty Co., Denrike Bldg.; Samuel J. Prescott Co., 814 13th St., N. W.; Frank L. Wagner, Inc., 1336 N. Y. Ave.; Chas. H. Tompkins Co., 1608 K St., N. W.; A B. Heaton, Archt, 1211 Connecticut Ave., N. W.

Fla., Dunnellon—Florida Power Corp., St. Petersburg, reported, acquired municipal electric plant.

Fla., Ocala—City extend power line on Anthony Rd.

Ga., Blue Ridge—Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., has contract for 25,000 kv-a water wheel to be installed by Tennessee Electric Power Co., Chattanooga, Tenn., in Blue Ridge station to be used in connection with hydro-electric development in northern part of Georgia; machine is of new umbrella type design; will operate at 164 r.p.m.

La., New Orleans—New Orleans Public Service, Inc., reported, expend $4,600,000 in 1930 for extensions, betterments and renewals of electric, gas and railway departments.

La., Oakdale—City install additional street lights.

Md., Baltimore—Consolidated Gas, Electric Light & Power Co., purchased 30,000 kv-a. frequency changer from Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., for installation at Westport station, 2101-21 Kloman St.; will be used as connection between present 60 and 25 cycle system; operate at 300 r.p.m.; Consolidated Gas, Electric Light & Power Co., erecting 4 story addition, 25x54 ft.; steam heat; cost $35,000; owner builds. 12-5

Md., Easton—Maryland Light & Power Co. incorporated; Thomas J. Tingley, Harry S. Carver, Jr.

Mo., Bagnell—W. E. Callahan Construction Co., Arcade Bldg., St. Louis, reported, has contract for 245,000 cu. yds. of excavation from west abutment and spillway sections of Bagnell dam project for Union Electric Light & Power Co., 12th and Locust Sts., St. Louis. 11-28

Mo., El Dorado Springs—City, reported, plans power plant; Burns & McDonnell Engineering Co., Engrs. Interstate Bldg., Kansas City.

Okla., Hulbert—Public Service Co., 510 S. Boston St., Tulsa, reported, erect $100,000 steam power plant.

Okla., Oklahoma City—Stupp Bros. Bridge & Iron Co., Weber Rd. & Mo. Pac. Trks., St. Louis, Mo., has contract for 1000 tons struc. steel for Belle Island Station, of Oklahoma Gas & Electric Co. 12-12

Okla., Nardin — Town votes Jan. 28 on granting 25 yr. franchise to Lincoln Utility Co.

Okla., Weleetka — Public Service Co. of Oklahoma, 600 S. Main St., Tulsa, reported, build addition to power plant.

S. C., McClellanville—Town granted franchise to South Carolina Power Co., Charleston ;will build generating plant.

Tenn., Knoxville—Knoxville Power Co., reported, increased authorized capital stock from $150,000 to $5,000,000, company constructing Calderwood dam.

Tenn., Memphis—Memphis Power & Light Co., M. Eldredge, Ch. Engr., P. O. Box 1515, advises company plans to spend $2,715,000 for new construction during 1930; this includes $591,000 to be spent for gas department, of which some $400,000 is for large mains; in the electric department $830,000 will be spent on increasing power plant facilities and $600,000 on transmission lines; balance of expenditures in both departments will be for normal expansion of system. 1-2

Tennessee—Merger of 8 utility companies owned by Cities Service Co., 60 Wall St., N. Y., in East Tennessee and Western North Carolina, into East Tennessee Light & Power Co., announced by Charles E. Ide, Gen. Mgr. of properties; authority for consolidation granted by Tennessee Railroad and Utilities Comsn. Nashville; properties involved are the following: Bristol Gas & Electric Co., Bluff City Electric Light & Power Co., Butler Light & Power Co., Elk Park Electric Light & Power Co., Erwin Electric Light & Power Co., Newland Light & Power Co., Watauga Power Co.; also secured stock of Tennessee Eastern Electric Co., Johnson City. 11-4

Tennessee—West Tennessee Power & Light Co., 2 Rector St., reported, plans expenditure of $110,000 on extension to electric and gas lines; operates plants at Humboldt, Jackson, Brownsville, Ripley, etc.; extend lines to rural communities.

Tex., Amarillo—Southwestern Public Service Co., subsidiary of American Commonwealth Power Corp., 120 Broadway, N. Y., reported, expend $1,400,000 for expansions and developments in Amarillo and Panhandle in 1930.

Tex., El Paso—City, Herman Rosch, Clk., receives bids Jan. 16 for installing street lighting system. See Want Section—Bids Asked.

Va., Danville—City, reported, voted to retain gas and electric light plants. 1-2

Va., Danville—City, reported, revised city gas and electric franchise; will call for new bids on plant. 1-2

Va., Winchester—City plans installing additional street lights.

Flour, Feed and Meal Mills

Mo., Kansas City—Clay-Leahy Grain Co., capital $110,000, incorporated; J. F. Leahy, 3330 Kansas Blvd.

Foundry and Machine Plants

Ala., Birmingham — American Cast Iron Pipe Co. has permit for $15,000 Mono Cast plant, Tuscaloosa and Pearl St.; metal frame; Southern Steel Works Co., Contr., 908 Lanier Ave.

Fla., Orlando—Arch Engineering & Construction Co., Inc., R. L. Graveley, Pres. and Mgr., 411 Exch. Bldg., erect plant for designing and erecting welded structural steel, and warehouse; 60x80 ft., steel, conc. floors, sheet steel roof; owner, architect and builder. (See Miscellaneous Enterprises, 1-2)

Ga., Atlanta — Brooks Foundry Co., 515 Marietta St., let contract to A. K. Adams & Co., 542 Plum St., N. W., for foundry; 1 story, 30x40 ft.

Miss., Laurel—Continental Electric & Mfg. Co., headed by W. H. Jolly, recently organized, soon start erecting plant to manufacture electrical appliances for home and commercial use; manufacture electric range,

Mo., St. Louis—Kinloch Brass Casting Co., Phillip Colonimus, 2356 Palm St., receiving new bids, no closing date set, for machine shop, 22nd and Howard St.; 1 and 2 story and part basement, 40x105 ft., conc. foundation, artificial stone trim, comp. roof, steel sash, obscure glass, tile coping, wood and conc. floors, struc. steel; private plans.

Okla., Tulsa—Bartlett Electric Co., L. A. Bartlett, V.-Pres. and Mgr., 215 N. Cheyenne Ave., recently formed by merger of motor department of Dodge Electric Co., 1212 East 15th St., and Oklahoma Armature Co., 115 East Archer St., plan new plant, equipped with modern machinery for rewinding and repairing electric motors, generators, etc.

W. Va., Huntington—Armstrong Electric & Mfg. Co., William Goodwin, Pres., 7th Ave. & 1st St., expand manufacturing facilities; installed small siver plating plant; will install chromium plating plant; enlarge silver plating plant; manufacturer ranges and household appliances.

Garages and Filling Stations

Ala., Birmingham—General Motors Truck Corp., Pontiac, Mich., let contract to Mackle Building Co., 615 S. 27th St., for garage and showroom, N. 11th Ave. and 26th St.; 1 story, brick and stone trim, 100x190 ft., built-up roof, steel trusses; private plans.

Ala., Clanton—Standard Oil Co. erect modern filling station.

Ark., Little Rock—Archie and I. McClellan, 2401 Pine St., erect garage and automobile repair shop, 402 W. Markham St.

D. C., Washington—Merchants Transfer & Storage Co., 920 E St., N. E., erect $12,000 garage, Third and Canal St., S. E.; 1 story, brick.

Fla., Jacksonville — Gulf Refining Co., Frick Bldg. Annex, Pittsburgh, Pa., erect filling stations, 1801 Liberty St., and 602 Pearl St.; $5000 each.

Fla., Lakeland — Hammond Jones, Inc., chartered; Hammond Jones, 310 N. Florida Ave.; repairing and painting automobiles.

Fla., Miami—Seaboard Oil Co., 5600 N. E. Fourth Ave., Jacksonville, let contract to Union Construction Co., for filling station Ponce de Leon Blvd. and Ave. Majorca; Spanish design, including wash rack, tire salesroom and service section; Paist and Stewart, Archts., Art Center Bldg., Coral Gables.

Ga., Atlanta—Standard Oil Co., 120 Broadway, New York, acquired Reed Oil Corp., 302 Peachtree St., operating 26 stations in Greater Atlanta, wagon service and other equipment; plans extending service.

La., Abbeville—G. P. Sledge, Abbeville, has contract for cement and steel work on rebuilding service station, South and Washington St.; 90x50 ft., fire and storm proof.

La., Shreveport — Andrew Currie, 3252 Southern Ave., has plans drawn for $50,000 garage, Springs and Lake St.; 2 story, rein. conc., brick, rein. conc. foundation, built-up comp. roof, steel and iron work, glazing, sheet metal work; E. A. George, Archt.

Md., Baltimore—American Oil Co., T. J. O'Connel, American Bldg., let contract to T. F. Leonard, 3615 Brehms Lane, for service and filling station, Belair Rd. and Sinclair Lane; 1 story, brick.

Md., Baltimore—Standard Oil Co., Standard Oil Bldg., acquired site York Rd. and Lyman Ave., adjoining present filling station; erect lubrication building; owner builds; private plans.

Md., Baltimore—R. W. Norris & Sons, H. O. Norris, 342 N. Gay St., drawing plans for automotive supply building, 29th and Cresmont Ave.; 1 story, brick, conc., steel sash; Owens & Sisco, Archts., Continental Bldg.

Miss., Gulfport—Waco Pep Oil Co. started erecting filling station, 15th St. and 21st Ave.; brick, stucco; G. O. McDonald, Lessee.

Miss., Hattiesburg — Shell Petroleum Co., Canal Bank Bldg., New Orleans, La., erect several filling stations; erect storage depot in southern part of city; install 4 tanks, with combined capacity of 86,000 gal.; clearing site.

Miss., Hattiesburg—Shell Petroleum Corp., N. J. Hayes, Asst. Mgr., Shell Bldg., St. Louis, Mo., erect several filling stations here and vicinity; erect storage depot near Williams St. and Bonhomie and Hattiesburg Southern tracks; install 4 tanks with combined capacity of 86,000 gal.; clearing site for tanks.

Mo., Kansas City — Interburban Central Station Co.'s $5,400,000 office bldg., hotel, bus station and garage development; for subcontracts see Contracts Awarded—Bank and Office; Wight & Wight, Archts., First Natl. Bk. Bldg., Kansas City; Thompson-Starrett Co., Inc., Contr., Monroe Bldg., Chicago, Ill., and 250 Park Ave., New York. 3-8

Mo., St. Louis—E. J. Johnson, Inc., 2310 Locust St., capital $100,000, chartered; J. S. Mitchell, St. Louis; E. J. Johnson, Denver, Colo.; automobiles, auto parts, accessories, etc.

N. C., Gastonia—Moore & Stewart, Inc., capital $200,000, chartered; W. P. Moore, Fairmont Park; automobile parts and accessories.

N. C., Hendersonville—Dixie Service Co., capital $25,000, incorporated; C. G. Keith, W. Mack Jones; operate service stations.

N. C., High Point — Firestone Tire & Rubber Co., Akron, Ohio, acquired site for retail building.

N. C., Mount Airy—Northwestern Oil Co., capital $100,000, incorporated; T. H Mackie, Navasota, Tex.; R. L. Mackie, Maplewood Ave., Winston-Salem; operate service station.

N. C., Raleigh—Blackwood's, Inc., capital $100,000, incorporated; C. H. Rawls, 1023 Cowper Drive.

N. C., Roxboro—Crowell Motor Co., Inc., capital $75,000, chartered; H. L. Crowell.

N. C., Thomasville—Hiatt Motor Co., capital $100,000, incorporated; C. C. Edwards, M. S. Hiatt.

N. C., Wilmington—Thomas Loftin erect filling station, Ninth and Castle St.

Okla., Bristow—Firestone Tire & Rubber Co., care C. G. Atkins, Akron, Ohio, has final plans in progress for service station; 1 story, 80x120 ft., brick, tile, rein. conc.; Adrian Popkin, Archt., Commercial Bldg., Tulsa.

Okla., Oklahoma City—Oklahoma Operating Co., Ben Barnett, Pres., soon start on final plans for $125,000 garage and warehouse; garage 1 story, 200x140 ft.; warehouse, 2 stories, 100x140 ft.; Walter T. Vahlberg, Archt., Braniff Bldg.

Okla., Sapulpa—Firestone Tire & Rubber Co., care C. G. Atkins, Akron, Ohio, soon start on plans for service station; brick, tile, 1 story, 40x140 ft.; Adrian Popkin, Archt., Commercial Blg., Tulsa.

Tenn., Athens — Brown-Greer Co., Roy Brown, Hillside Ave., South Knoxville, acquired Electric Maid Bakery; Roy Nankibell, Prop., to remain in charge as branch manager.

Tenn., Chattanooga—Rice Bros. Chevrolet Co., capital $100,000, incorporated; C. D. Rice, Cleve Pike.

Tenn., Chattanooga—Campbell Oil Co. start erecting $15,000 filling station, Magnolia and McCallie Ave., in few weeks; W. Sears, Archt., James Bldg.

Tenn., Knoxville — City, Geo. Dempster, Mgr., City Hall, has preliminary plans in progress for remodeling and addition to garage; brick, conc. floors, 1 story, 200x100 ft.; $30,000; R. F. Graf & Sons, Archts., Journal Bldg.

Tex., Beaumont—Humble Oil & Refining Co., Humble Bldg., Houston, acquired site, Laurel Ave. and Mariposa St., for filling station; soon begin construction.

Tex., Houston—Consolidated Oil Co., 2905 McKinney St., acquired site, Yale and 16th St., and now erect filling station.

Tex., Houston — Shell Petroleum Corp., Shell Bldg., St. Louis, Mo., acquired site, Louisiana and Gray Ave., for filling station.

Va., Farmville—Newman Chevrolet Sales Corp., capital $50,000, incorporated; George A. Newman.

Va., Norfolk — Ford Motor Co., Edsel B. Ford, Pres., Detroit, Mich., reported, expend $30,000,000 for expansion in 1930, about $2,000,000 for improvements, additions and other changes to plant and equipment here.

Va., Pulaski—Antrim-Wysor Motor Corp., A. Blair Antrim in charge, formed by merger of City Garage and Antrim Motor Co.

Va., Richlands—Walker Chevrolet Sales Co. soon start erecting automobile building.

Va., Roanoke—Atlantic Refining Co., 260 S. Broad St., Philadelphia, Pa., razed building, Salem Ave. and Commerce St., for filling station.

W. Va., Clarksburg—Gulf Refinuing Co., Frick Bldg., Annex, Pittsburgh, Pa., acquired Angle Inn Bldg., W. Pike and W. Main St.; raze building and erect filling station; reported, negotiating for tract near Adamstown for large storage tanks.

Gas and Oil Enterprises

Ark., Greenwood—Arkansas-Oklahoma Gas Co., 711 Garrison Ave., Fort Smith, J. C. Kenedy, Pres., 1100 Allen Bldg., Dallas, Tex., expending $45,000 for line and distribution plant; material purchased; construction by company's forces.

Ky., Horse Cave—Wisconsin-Kentucky Oil & Gas Co., increased capital to $1,000,000.

Ky., Louisville—Helium Co., 1756 Logan St., increasing capital stock, $200,000 to $700,000.

Kentucky—Petroleum Exploration Co., Sistersville, W. Va., reported, acquired holdings of Superior Oil Corp. in Kentucky.

La., Tullos—Gulf States Gas Co. of Louisiana, Inc., chartered; E. M. O'Bannon, J. L. Spotten.

Miss., Louisville—Mississippi Natural Gas Corp., P. M. Biddison, Consit. Engr., Watts Bldg., Birmingham, Ala., is designing and will construct with own forces natural gas distribution system. 12-19

Miss., Yazoo City — Missouri Power & Light Co., Jackson, begin construction work soon on distribution system in city; granted 25 yr. natural gas franchise; gas to be supplied from 22-in. pipe line connecting Birmingham, Ala., with gas fields in Louisiana; to cross Mississippi in northwesterly direction 1½ miles south of Yazoo City and along southern corporate line of Pickens. 12-19

N. C., Biscoe—Biscoe Oil Co., Inc., chartered; H. R. Burt.

N. C., Mount Airy—Northwestern Oil Co., capital $100,000, incorporated; R. M. Mackie, Maplewood Ave., Winston-Salem.

Oklahoma—Merger, reported, contemplated of White Oak Oil and Refining Co., Allen; Caravan Oil & Refining Co., Oklahoma City; Gulf States Terminal & Transport Co., Queen & Crescent Bldg., New Orleans, La., and Lion Refining Co., El Dorado, Ark.

Okla., Ada—Oklahoma Gas & Electric Co., Oklahoma City, reported, applied for franchise; city votes Jan. 21.

Okla., Cushing—Empire Pipe Line Co., Bartlesville, reported, plans construction of oil pipe line, also pumping plant: cost $35,000.

Okla., Sayre—Clay Scott, Jr., reported, acquired Sayre Refining Co.

Okla., Tulsa — White Oak Refining Co., Hunt Bldg., Tulsa, Okla., reported, receiving bids for 3500 bbl. daily skimming refinery.

Okla., Tulsa—Lamp Oil Co., capital $80,000, incorporated; J. R. Murphy, 1721 S. Victor St.

S. C., Spartanburg—C. M. Guest & Sons, Anderson, have contract for warehouse and office building for Standard Oil Co. of New Jersey, 26 Broadway, N. Y.; warehouse, flat slab and 4 way steel; 2 story, 60x100 ft.; contract price about $32,000, including plumbing, heating and electrical; electrical subcontracted to Huntington & Guerry, River St., Greenville. 12-12

Tenn., Memphis—See Electric Light and Power.

Tex., Amarillo—Minute Men Oil Co., capital $100,000, incorporated; F. E. Keeler, L. L. Dennis.

Tex., Dallas—Texas Chief Oil & Royalty Corp., capital $200,000, incorporated; Milton Pilot, 5515 Victor St.

Tex., Dimmitt—West Texas Gas Co., Amarillo reported, granted gas franchise; work to begin on line in August. 1-2-30

Tex., Littlefield—West Texas Gas Co., Independence, Kans., construct natural gas plant in town; work by company's forces; South Plains Pipe Line Co., are building short extension of line from Lubbock to supply gas; distribution plant to be built and operated by West Texas Gas Co.; all work being done by each company on its own lines; orders placed for mchy. 1-2

W. Va., Charleston—Kelchap Co., Kanawha Banking & Trust Co. Bldg., incorporated, $200,000, incorporated; Raymond A. Kirchner, Harold Bradley, both 70 Fifth Ave., N. Y.

W. Va., Clarksburg—Hope Natural Gas Co., Empire Bldg., reported, plans expending $13,000,000 on new construction work and $543,000 on additions and improvements in West Virginia during 1930.

Ice and Cold-Storage Plants

Fla., Bonifay—Gulf Power Co. acquired Bonifay Ice & Cold Storage Co., Main St. and Louisville & Nashville R. R.; started rehabilitating property; rearrange present building and add cold-storage facilities; installing service platform and conc. driveway.

Ky., Covington—Andy Wissel Ice Co., capital $75,000, incorporated; Andy Wissel, Fred W. Steangle.

La., Lutcher — Louisiana Ice & Utilities, Inc., Alexandria, receiving bids, no date set for closing, in office of architect, for ice and power plant; Sam Stone, Jr., & Co., Archts., Masonic Temple Bldg., New Orleans. 12-19

Md., Hagerstown—T. S. Michael, Frederick, associated with Hygiea Ice & Coal Co., erecting ice plant; modern, brick, 30-ton capacity; to be complete by Apr. 1; Allen J. Haim, Hagerstown, to be chief engineer.

Miss., Crystal Springs—Southern United Ice Co., F. I. McClanglish, Dist. Mgr., Jackson, has plans in progress for $30,000 ice plant; 1 and 2 story, brick, conc. foundations, steel roof, steel roof trusses, cork insulators; C. H. Lindsley, Archt., Edwards Hotel Bldg., Jackson. 10-3

Tex., Harlingen—Central Power & Light Co., Frost Natl. Bank Bldg., San Antonio, opens bids Jan. 11 for cold-storage plant; John M. Marriott, Archt., Frost Natl. Bank Bldg. 12-12

Tex., McKinney—Crystal Ice Co., capital $50,000, incorporated; E. Riggs, W. H. McAbee.

Tex., Mercedes — Alford Ice Co., capital $100,000, incorporated; R. W. Alford, Sidney L. Samuels.

Tex., Stamford — Ariedge Bros. acquired Stamford Independent Ice Co.

Va., Milford — Virginia Ice & Coal Co., Richmond, erecting ice and cold-storage plant; brick.

Iron and Steel Plants

Tex., Abilene—Central Texas Iron Works, Oliver Winchell, Jackson St. from 21st to 22nd St. on M-K-T Ry., advises erecting plant on 6-acre site mile from heart of city; office being erected by Williamson & Moore, Abilene, to be completed Jan. 30; struc. steel frame shop, 50x200 ft., designed and fabricated by owner and will be erected by own erection department, upon completion of 625-ft. spur track under construction by Texas & Pacific R. R.; all machinery and equipment either on hand in Abilene or in Waco awaiting completion of building; cost approx. $50,000; plan beginning operations about Mar. 1-2

Land Development

Fla., Jacksonville—Dr. J. E. Rawlings, 221 Orange Ave., Dayonta Beach, reported, acquired 102 acres on Lem Turner Rd.

Fla., Miami Beach—Ocean Beach Heights Co., S. N. Tatum, V. P., 184 S. E. 14th St., Miami. J. Julian Southerland, Atty., First Natl. Bk. Bldg., Miami, reported, started work on filling in 200 acres at 98th St. and Bakers Haulover; bids on 5000 ft. of bulkheading, 3 miles paving, storm and sanitary sewer, curb and gutters and landscaping will probably be called for in the spring; colonization project is owned by Graham-Paige Motor Co., 5540 Woodward St., Detroit, Mich.; Chas. G. Hancock, 1803 Court House Bldg., Miami, Engrs. 8-8

La., Covington—Klondyke Orange Groves, Inc., capital $25,000, incorporated; R. H. Dutsch, F. P. Marsolan.

La., Lake Charles—Lacassane Co., Inc., capital $225,000, chartered; W. P. Weber, 623 Pujo St.

La., Shreveport—Youngblood Realty Co., Inc., capital $100,000, chartered; W. C. and J. D. Youngblood, 3025 Samford Ave.

La., Zwolle—J. H. Reeves develop subdivision on north side of town.

Miss., Pascagoula—City, reported, let contract about Jan. 11 for improvements to park; including construction of pier, 8 ft. wide and 1000 ft. long; erect for recreational building; $60,000 available.

Mo., Jefferson City—Walinko Realty & Investment Co., capital $100,000, incorporated; Ben H. Linhart, George W. Wagner.

Mo., Kansas City — Ka-Zan Heights Co., Inc., has 110 acres at Lake Taneycomb, Taney County; develop 70 acres for resort; build 50 cabins, hotel, amusement concessions; expned $25,000; Stanley E. Kraft, Constr.Engr., both 4004 Bellefontaine. 12-5

N. C., Wilson—Home Investment Co., capital $100,000, incorporated; Geo. E. Walston, Nash St., W. H. Farmer.

Tenn., Dyersburg—City plans voting on $12,000 park bonds.

Tex., Austin—Sunset Hill Enfield Co., capital $25,000, incorporated; James M. Hart, 2712 Rio Grande St., develop 49 acre subdivision.

Tex., Beaumont — Charles H. Weinbaum, Perlstein Annex, develop subdivision on North St.

Tex., Beaumont—Wm. Seale, 470 S. Fourth S.t, acquired 35 acres on Voth Highway; develop subdivision.

Tex., Corpus Christi—See Sewer Construction.

Tex., Dallas—City and Dallas County, reported, plan voting on bonds for recreational program, including lake on Mountain Creek west of Oak Cliff.

Tex., Houston—L. L. Huie, devleop 40 acres near Goose Creek townsite for subdivision.

Tex., Huntsville — City, Sam McKinney, Mayor, plans developing park on Navasota Rd.

Tex., Olmito—Al and Lloyd Parker, Inc., capital $50,000, incorporated; A. F. Parker, F. R. Lucas.

Tex., San Benito—Al Parker Securities Co., La Feria, reported, acquired 3000 acres extending from Fresnos Resaca to Arroyo Colorado.

Tex., Victoria — A. F. Knowlen develop subdivision in Hillcrest Addition.

W. Va., Oak Hill—Hill Co., Inc., chartered; C. R. and M. K. Hill.

Lumber Enterprises

Ala., Allison—Sipsey Valley Lumber Co. acquired Hutchinson-Moore Lumber Co.

La., Minden—See Foundry and Machine Plants.

La., Minden—Turner Bros. Lumber Co. erecting machine shop, Gleason St.; 40x106 ft.

Mo., St. Charles—H. G. Rauch Lumber Co., capital $50,000, incorporated; Henry G. Rauch, Lucille Rauch Heck.

N. C., Fayetteville—Carolina Lumber Co. incorporated; W. F. Janoske, Sr., Fayetteville; Greeley O. Janoske, Oakland, Md.

N. C., Hertford—Major & Loomis Co. plans rebuilding dry lumber plant, recently burned with $100,000 loss.

Tenn., Memphis—Erskine Williams Lumber Co., Bank of Commerce Bldg., capital $50,000, incorporated; Erskine Williams, F. W. Snepp.

Va., Stonega — McCorkle Lumber Corp., Johnson City, Tenn., has contract to cut 16,500,000 ft. hardwood timber from land of Virginia Coal & Iron Co., Big Stone Gap; band mills to be moved from Sword's Creek, Va.; Interstate R. R. Co., H. A. Ramsey, Ch. Engr., Andover, Va., completing ½ mi. extension to mill; M. R. McCorkle, supervising construction of lumber camp.

Metal-Working Plants

La., Harvey—Continental Can Co., Inc., F. A. Prahl, V.-Pres., 100 E. 42nd St., New York, advises: "Do not intend at this time to build on site recently acquired." 12-26

Mining

Ark., Jasper—Ozark Reduction Co., Jasper, Gordon N. Peay, Pres., Little Rock, recently organized, reported, plans $2,000,000 lead and zinc mining project, including hydro-electric dam, 12 mi. from here on Buffalo River, costing approx. $550,000, 105 ft. high, narrow lake 15 mi. long; F. E. Hatch, Mining Engr. and Treas.

Fla., Midway — Ingalls Iron Works Co., Birmingham, Ala., has contract for 140 tons steel for building of Fullers Earth Co., 10616 Euclid Ave., Cleveland, Ohio.

Ga., Elberton—American Granite Corp. of Georgia, Harry C. Morris, P. O. Box 760, develop 80-acre granite deposit, to be opened in April. See Want Section—Machinery and Supplies.

Va., Bluefield—Cove Creek Mining Corp., capital $25,000, incorporated; Abe Williams, George T. Hypes; develop graphite deposits on extensive scale.

Miscellaneous Construction

Ala., Mobile—City and Chamber of Commerce interested in constructing sea wall along western shore of Mobile Bay.

Fla., St. Petersburg—See Railways.

Louisiana—U. S. Engr. Office, foot of Prytania St., New Orleans, let contract to J. M. DeFraites, Inc., Canal Bank Bldg., New Orleans, for 2370 lin. ft. wooden revetment, Alliance extension levee, Barataria Levee Dist., at $4.12 per lin. ft. 12-19

Louisiana—Bd. of State Engrs., New Courthouse Bldg., New Orleans, has low bid from J. P. Babcock, Paris, Ill., at 16 2/3 cents per sq. yd., for constructing following levee work on Red River; State line to Old River, left descending bank of Red River, Bossier Parish, in North Bossier Levee Dist.; approx. 73,000 cu. yd.; recommended to Governor for acceptance and award. 12-12

La., Alexandria—City Council soon let contract for constructing and equipping $25,000 river terminal station, Lee St. inciding platform for truck delivery, elevated platform by railroad side track, warehouse, 50-ft. crane; I. W. Sylvester, City Engr.

La., Lake Charles—Lake Charles Port Directors plan expending $500,000 for additional warehouse and dock space.

Miss., Pascagoula—Mayor and City Council open bids Jan. 11 for constructing pier and pavillion in Mississippi Sound south of city park, joining on presently constructed beach protection works at northerly end of pier and extending southerly 1000 ft., including 3 unloaded test piles, 5255 lin. ft. creosoted piling, 32,776 f. b. m. creosoted struc. timber, 39,723 f. b. m. untreated struc. timber, 13 squares roofing, 1 unit 2-in. water line complete and 1 unit lighting system complete; F. H. McGowen, Consit. Engr., Ocean Springs.

Mo., Kansas City—U. S. Engr. Office, Postal Telegraph Bldg., opens bids Jan. 27 for constructing about 6500 lin. ft. standard pile clump dikes, Missouri River, Iatan Bend, ¼ mi. from Oak Mills, Kans.

Mo., Madrid—U. S. Engr. Office, McCall Bldg., Memphis, Tenn., opens bids Feb. 4 for constructing about 2,945,000 cu. yd. earthwork in Upper St. Francis Levee Dist. on what is known as Birds Point-New Madrid Floodway Levee, designated as following by piece number, location kind of work, estimated net yardage, average height in feet: 4E, 55R, new, 970,000, 21.8; 4F, 60R, new, 1,975,000, 24.5.

Tenn., Memphis — City Comn., Oscar I. Kruger and W. H. Hugo, head of Sanitary Dept., plans $50,000 incinerator.

Tex., Corpus Christi—City voted $60,000 bonds for incinerator. 12-5

Tex., Port Arthur—City, office of City Clk., opens bids Jan. 31 for sea wall; J. B. Converse & Co., Inc., Engrs., Industrial Bldg., Port Arthur, and State Office Bldg., Mobile, Ala. 12-26

Tex., San Antonio—Spillway—See Roads, Streets, Paving.

Va., Hopewell—Sub-Committee of Port and Dock Comn. and Rivers and Harbors Committee plans acquiring dock.

Miscellaneous Enterprises

Ala., Tuscaloosa — Champion Fiber Co., Canton, N. C., reported, negotiating for large track at Fox, Ala., 10 mi. north of for paper mill site.

Fla., Apalachicola—H. G. Fannin Co., Inc., chartered; H. G. Fannin, Apalachicola; A. A. Payne, Panama City; naval stores.

Fla., Jacksonville — See Woodworking Plants.

Fla., Lake City—W. C. Birch erecting 40 tobacco barns, Columbia County.

Fla., Orlando—Wallace Construction Co., incorporated; W. W. Wallace.

Fla., Pensacola—C. E. Dunham of Cut-Rate Tire Shop, heading new company to establish candy plant; portion of building, N. Palafox St., to be equipped for temporary plant; portion of equipment installed.

Ga., Macon—Nu Icy Bottling Co., Inc., capital, $20,000, incorporated; H. M. Johnson, 151 Boulevard Ave.

Ga., Savannah—E. & W. Laundry, 702 W. Anderson St., let contract to R. J. Whalley, Inc., for addition to plant; approx. 2500 ft. floor space; windows, 10x13 ft., incased in metal fittings, sprinkler system, exterior to be stuccoed with spatter-dash finish; Levy & Clarke, Archt.

Ky., Harlan — Enterprise Publishing Co., capital $60,000, incorporated; J. M. Alverson.

La., DeQuincy—Acme Products Co., subsidiary of Gillican-Chipley Co., Whitney Annex, New Orleans, reported, plans expending about $1,000,000 to double output of turpentine products plant.

La., Houston—North Louisiana Dairy Products Co., Inc., T. H. Mills, Pres., completing plans for dairy products plant; building to cost approx. $45,000, machinery and equipment, $145,000; Douthitt Engineering Co., Engr., 100 W. Monroe St., Chicago, Ill. 11-21

La., Jennings—C. A. Mack, Niblett, acquired 25-acre farm 1 mi. south of city, Lake Arthur Ave., known as Hassan Property; establish dairy and operate retail milk business in Jennings.

La., New Orleans—Independent Laundry, Inc., 2532 St. Philip St., let contract to O. M. Gwin Construction Co., Union Indemnity Bldg., for laundry, St. Peters near N. Dorgenois St.; Jones, Roessle & Olscner, Archts., Maison Blanche Bldg. 12-12

Md., Baltimore—Locke Insulator Corp., Charles & Cromwell St., opens bids soon for addition to plant; 3 buildings, 1 and 2 story, conc. and brick; W. S. Austin, Consit. Engr., Maryland Trust Bldg.

Md., Baltimore — Refinery Transportation Co., 405 Piper Bldg., incorporated; Thomas F. Reynolds; transport freight and passengers by water.

Md., Chesapeake Beach—Chesapeake Beach Ry. Co. applied to Interstate Commerce Comn., Washington, for authority to establish ferry for transporting passengers and freight across Chesapeake Bay, Chesapeake Beach to point on Trippe's Bay on eastern shore; to be financed by issue of $750,000 bonds.

Md., Midland—Ort Bros Bakery, Inc., chartered; John L. Ort, Midland; Harry C. Ort, LaVale, Cumberland.

Miss., Oxford — Company headed by Albert Finger, Starkville, plans establishing creamery in building occupied by T. J. Metts Motor Co., to be in operation by Feb. 1.

Miss., Philadelphia — Birney Imes, editor and publisher of Columbus Commercial Dispatch, Columbus, acquired Neshoba Democrat; Robin Weaver, Columbus, to edit paper and have active charge.

Mo., Clinton—Lindstrom Hatchery & Poultry Farm, capital $100,000, incorporated; Elmer A. Lindstrom.

Mo., Springfield—City plans voting $150,000 bonds for extension of fire fighting facilities.

Mo., St. Louis—Ever Clean Seat Pad Co., 905-915 Lucas Ave., manufacturer of seat pads for automobiles, leased 2-story building, 1511-1521 N. 12th St., for manufacturing and warehouse purposes.

Mo., St. Louis—American Syrup & Sorghum Co., 4300 Geraldine St., capital $150,000, incorporated; C. H. Lorenz.

Mo., St. Louis — Johnston Tin Foil & Metal Co., John L. Boyle, Sec., 6106 S. Broadway, let contract to Gillespie & Daly, Inc., International Life Bldg., for plant addition; elec. wiring to Chas. Sutter, 1303 Pine St.; heating to Hunt Heating Co., 1515 Pine St.; elevator, Wm. A. Miller Machine & Elevator Co., 920 N. Main St.; steel sash, David Lupton Sons Co., Railway Exch. Bldg.; Chas. H. Deiterling, Archt., Central National Bank Bldg. 12-12

N. C., Asheville—Stevens, Inc., capital $40,000, chartered; R. W. Luther, 12 Carolina Ave.; road building.

N. C., Asheville—Gay Green, Chmn. of Organization Committee, Frank Coxe, Pres., Frank Coxe Co.; C. W. Tull, Pres., General Mortgage Co., and associates plan organizing casualty firm to specialize in automobile insurance.

N. C., Canton—Champion Fibre Co., R. B. Robertson, Pres., expend about $400,000 for improvements in 1930.

N. C., Charlotte, Raleigh—Pioneer Amusement Enterprises, capital $750,000, incorporated; Harry M. Goodhue, C. S. Groves.

N. C., Elizabeth City—Crystal Ice & Coal Corp. plans addition to plant.

S. C., Greenville—Coca-Cola Bottling Co., C. H. Yates, 537 S. Main St., acquired site for bottling plant; break ground about Feb. 15. 11-14

N. C., Greensboro—Dixie Dairy Co., capital $200,000, incorporated; W. W. Dick, 246 Bellemeade St

N. C., West Jefferson—Kraft-Phenix Cheese Corp., C. M. Gere, Dist. Mgr., start erecting $100,000 cheese plant in few days; 75x140 ft., brick, steel, conc., produce approx. 70,000 lb. milk daily; F. B. Shaw, of company's Architectural Dept., supervise construction. 11-14

Okla., Oklahoma City — Mid-Continent Laundry & Linen Supply Co., H. C. McCane, Pres., install machinery, 422 W. Third St., to cost $50,000.

S. C., Anderson—Electric City Printing Co., Inc., capital $20,000, incorporated; J. P. Noblitt, T. K. Roper.

S. C., Camden—J. H. Anderson will now erect 5-room bungalow and modern incubating and brooder houses.

Tenn., Chattanooga — Conner-Craven Equipment Co., capital $100,000; R. C. Craven, 1705 Bennett Ave.

Tenn., Memphis — Jackson & Moreland, Engr., Park Square Bldg., 31 St. James Ave., Boston, Mass., advises construction of plant of Plough, Inc., postponed. 10-31

Tenn., Memphis—Mississippi River Comn., 815 Olive St., St. Louis, Mo., plans hydraulic laboratory; initial building, 125x15 ft., including offices and workshop; water to be taken from river to storage basin and forced into high constant-head reservoir serving models by gravity flow.

Tenn., Memphis—Wood Paper Co., capital $50,000, incorporated; J. E. Wood, 268 Avalon St.

Tenn., Newport—W. J. Allen, 654 N. Kirkwood Road, St. Louis, Mo., probably establish garment plant to employ 100.

Tenn., Watertown—Stephens Huffines Shirt Factory rebuild burned plant; to be erected to provide for expansion; install 150 machines of modern type; employ about 175.

Tex., Amarillo—U. S. Government, Bureau of Mines, Washington, has appropriation for enlarging helium gas plant.

Tex., Amarillo—Nunn-Warren Publishing Co. increasing capital stock, $50,000 to $300,000.

Tex., Corpus Christi—Weeviline Co. being formed by C. N. Lowris, H. O. Pfeiffer, 911 Staples St., both Corpus Christi, August Hinze, Robstown; Max Schubert, Orange Grove, and associates, and completed plans for erecting plant near port to develop anti-boll weevil formula.

Tex., Dallas—Automobile Underwriters' Insurance Co., Mercantile Bank Bldg., increasing capital stock, $250,000 to $350,000.

Tex., Dallas—Automobile Underwriters' Inance Co., Dallas Natl. Bank Bldg., increasing capital stock, $190,000 to $250,000.

Tex., El Paso—Continental Bag & Trunk Co., A. Bargman, Pres., 214-16 S. Stanton St., ordering new machinery and arranging for rebuilding burned plant.

Tex., Galveston — Stranahan, Harris & Oatis, Inc., Toledo, Ohio, acquired Galveston-Bolivar Ferry Corp., A. L. Burge, Pres., 727 J St.

Tex., Galveston—Mosaic Tile Co., Ermila Rendon Lozano, Pres., 213 E. Cevallos St., San Antonio, plans establishing branch plant here or in Houston.

Tex., Galveston—Purity Creamery Co., Inc., capital $150,000, incorporated; G. B. Brynston, 1811 32nd St.

Tex., Galveston—Shearn Moody erect laundry at 31st and N Sts.

Tex., Georgetown—Armour & Co., Union Stockyards, Chicago, reported, acquired site and will enlarge Round Rock cheese factory; establish central milk plant; enlarge poultry dressnig plant; later plans cheese plant.

Tex., Kingsville — Dairy Products Co. increased capital $20,000 to $200,000.

Tex., Round Rock — Round Rock Cheese Factory Co., A. H. Kaufman, Mgr., enlarge plant.

San Antonio—Alamo Life Insurance Co., increasing capital stock, $100,000 to $200,000.

Tex., Houston—Seaport Bag Co., H. Redman, Pres., burlap bag manufacturer and dealer, leased 20,000-sq. ft. lot; having plans drawn for $85,000 to $125,000 plant; 2 or 3 story; plans importing bagging direct from Calcutta.

Tex., Houston—Houston Stamp & Stencil Co., 815 Fannin St. has $35,000 plant under construction, W. McKinney and Wilkinson St., to house shop, machinery and general offices.

Tex., Houston—See Galveston.

Tex., Yoakum—Robert A. Meyers establishing chicken hatchery, Route No. 2; purchased 2 incubators; 9000-egg capacity each.

Tex., Waco—Borden Co., of Texas increasing capital stock, $200,000 to $500,000; milk products.

Va., Clarksville—C. M. Buchanan & Co., Inc., capital $100,000, chartered; M. A. Goode, Virgilina; building and construction.

Va., Pulaski—See Woodworking Plants.

W. Va., Clarksburg—Imperial Ice Cream Co., J. T. Swager, V.-Pres., in charge of operations, plans remodeling plant early in year; has option on Stout's Primrose Dairy, 505 Clark St., Glen Elk.

W. Va., Fairmount—Owen-Illionois Glass Co., Toledo, Ohio, reported, plans expansion at bottle plant at once; suspend operations 60 days; O. F. Schlotter to be local manager.

W. Va., Kimball—Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh, Pa., reported, expend about $200,000 or $250,000 at Norwood in next few months for improvements to plant.

Motor Bus Lines and Terminals

Arknasas—See Electric Light and Power

Ky., Lexington—City, Mayor James O'Brien, interested in providing adequate terminal facilities.

Ky., Louisville—Aero Mayflower Transit Co. increasing capital stock, $50,000 to $100,000.

Mo., Kansas City — Interburban Central Station Co.'s $5,400,000 office bldg., hotel, bus station and garage development; for sub-contracts see Contracts Awarded—Bank and Office; Wight & Wight, Archts., First Natl. Bk. Bldg., Kansas City; Thompson-Starrett Co., Inc., Contr., Monroe Bldg., Chicago, Ill., and 250 Park Ave., New York. 8-8

Tex., Kerrville—Kerrville Bus Co., Inc., capital $50,000, chartered; Hal Peterson.

W. Va., Grafton—Blue & Gray Lines, Virginia and Alderson St., Charleston, authorized by State Road Comn. to extend lines, Grafton to Maryland state line, near Aurora, Preston County, and, Maryland state line at Gormania through Romney to Virginia state line near Capon Bridge.

W. Va., Moundsville—West Virginia Transportation Co., Clarksburg, subsidiary of Baltimore & Ohio R. R., Baltimore, Md., plans central bus service and gasoline station, to serve buses operating between Wheeling and Parkersburg.

Railways

Ark., Fort Smith—Missouri Pacific R. R. Co., E. A. Hadley, Ch. Engr., St. Louis, Mo., authorized by Interstate Commerce

Comn., Washington, to construct 970 ft. new track connecting main line with tracks of Fort Smith Suburban Ry.

Fla., St. Petersburg—Maj. Cramer B. Potter, Chmn. of City Port Committee, recommended early bond issue for constructing belt line railway connecting Port of St. Petersburg with rail terminals and appointing committee to go to Washington and start negotiations for acquiring Mullet Key for future deep water port; developing Mullet Key to cost $998,400, $58,400 for fill 4½ mi. long, 12 ft. deep, 150 ft. wide; $100,000 for steel draw bridge over Pass-a-Grille channel; $255,000 for railroad to Mullet Key from Seaboard Air Line in St. Petersburg; $475,000 for 2 docks along deep water at east side of Mullet Key; does not include roadway to be built paralleling railroad. (See Miscellaneous Construction, 6-13-29)

Kentucky—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, Va., started constructing 15-mi. line in vicinity of Johns Creek.

Ky., Carrollton—Carrollton R. R., capital $75,000, incorporated; Sidney Smith.

Ky., Millard—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, Va., reported, let contract to Langhorne & Langhorne, First Huntington Natl. Bank Bldg., Huntington, W. Va., for constructing 28-mi. extension of Levisa River R. R. Co., subsidiary, Millard, and Va.-Ky. border to tap undeveloped timber territory. 11-28

Mo., St. Louis—Missouri Pacific R. R. Co., W. A. Hopkins, Gen. Pur. Agt., ordered 5 locomotives from American Locomotive Co., 30 Church St., New York.

N. C., Durham—American Tobacco Co., 111 Fifth Ave., New York, let contract to Stewart & Jones, Rock Hill, S. C., for spur track, entering southern end of property, including grade elimination, approx. 4 mi.; cost approx. $400,000, including right-of-way; part of company's expansion program.

N. C., Wilmington—Atlantic Coast Line R. R., F. H. Fechtig, Pur. Agt., ordered 700 tons rail from Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Texas—Chicago, Rock Island & Pacific Ry. Co., L. A. Richardson, Gen. Supt., Motive Power, Mechanical Dept., Chicago, Ill., advises regarding 5000 freight cars ordered for 1930 delivery, ordered 1000 automobile, 40 ft. 6 in., 40 ton, from Bettendorf Co., Bettendorf, Ia.; 500 automobile, 50 ft. 6 in., 40 ton, 1000 box, 40x6 in., 50 ton, American Car & Foundry Co., Syndicate Trust Bldg., St. Louis, Mo.; 500 box, 40 ft. 6 in., 50 ton, General American Car Co., 230 S. Clark St., E. Chicago, Ind.; 500 box, 40 ft. 6 in., 50 ton, Pullman Car Mfg. Corp., Michigan City, Ind.; 1000 gondola, 48 ft. 6 in., 70 ton, Pressed Steel Car Co.; 250 stock, 40 ft., 40 ton and 250 flat, 46 ft., 50 ton from Ryan Car Co., both Hegewisch, Chicago, Ill. 12-12

Tenn., Chilhowee—Southern Ry., Fairfax Harrison, Pres., Washington, D. C., reported, negotiating with Babcock Lumber & Land Co., Pittsburgh, Pa., for purchase of railroad bed and right-of-way, Chilhowee, to top of Chilhowee Mountain, just across North Carolina line from Graham County; construct scenic railroad to top of mountain.

Texas—W. B. Storey, Pres., Atchison, Topeka & Santa Fe Ry. System, Chicago, Ill., advises estimated capital expenditures for additions and betterments to existing Santa Fe System properties for 1930 will be approx. $22,000,000; widening cuts and fills, etc., $600,000; ballasting, $1,300,000; rail and other track material, $2,200,000; bridges, trestles and culverts, $1,400,000; elimination of grade crossings, $350,000; additional main tracks, $1,800,000; additional yard tracks, $4,250,000; change of grade or alignment, $650,000; signal and interlocking plants, $1300,000; stations, office buildings, etc., $2,500,060; water and fuel stations, $1,400,000; shop buildings, etc., $2,150,000; Store Dept., $500,000; improvements to equipment, $1,600,000; laying 529 mi. new rail, comprising 7 mi. of rail weighing 130 lb. per yd., 366 mi. of 110 lb. rail, and 156 mi. of 90 lb. rail; requires 94,000 tons of rail and 21,000 tons of fastenings; total cost of steel for which will be about $5,200,000; ordered for delivery in 1930; 3500 box cars, 200 mill cars, 300 gondola cars, 500 refrigerator cars, 150 flat cars, 500 automobile cars, 200 ballast cars, 100 tank cars, 104 cabooses, 300 stock cars, total of 5854 freight cars, 49 passenger cars, 2 gas-electric cars and 1 new type locomotive for test purposes, total est. cost $18,703,560; expend approx. $85,000,000 maintaining existing properties and $42,000,000 in operating such properties in 1930. 1-2

Tex., Houston — San Antonio & Aransas Pass Ry., subsidiary of Texas & New Orleans R. R. Co., R. W. Barnes, Ch. Engr., Houston, authorized by Interstate Commerce Comn., Washington, to construct 1½ mi. line in city. 8-22

Tex., Houston—International-Great Northern R. R. Co., C. S. Kirkpatrick, Ch. Engr., Houston, authorized by Interstate Commerce Comn., Washington, to construct over 1 mi. of track in city to serve plant of Trinity Portland Cement Co.

Va., Richmond—Seaboard Air Line Ry. Co., W. D. Faucette, Savannah, Ga., improve and rehabilitate Shockoe Valley; Streets Committee recommended to City Council ordinance granting company right to double track its lines through Valley, Brown St. to Hermitage Rd.; expend about $50,000 improving holdings in city.

Railway Shops and Terminals

Tex., Big Spring—Texas & Pacific Ry. Co., E. F. Mitchell, Ch. Engr., Dallas, let contract to Robert E. McKee, El Paso, for locomotive terminal, including roundhouse, outbuildings and other facilities. 12-5

Tex., Temple—Atchison, Topeka & Santa Fe Ry. G. W. Harris, Ch. Engr., Chicago, Ill., erect $30,000 water treatment plant.

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Alabama—State Highway Comn., Montgomery, received low bids for 2 roads, 7 conc. bridges, etc.: Mobile County—27 mi. highway between Mobile and Citronelle, A. H. Singer, Lafayette, $205,769; 7 conc. bridges, S. P. Cook, Fairmont, Ga., $80,294; Russell County—4.50 mi. grading, draining between Seale and Pittsview, Brantley & Crawley, Banks, Ala., $8330. 12-15

Alabama — State Highway Dept., Montgomery, has $3,000,000 available for road construction in 1930.

Arkansas — State Highway Comn., Little Rock, plans expending $7,500,000 in 1930 for roads in western dist. of State: 12 mi. conc., Highway No. 71, Greenwood to Mansfield, cost about $300,000; 6 mi. conc., Highway No. 71, Clear Creek north of Fayetteville to Springdale, cost $180,000; 12 mi. conc., Highway No. 71, Springdale to Rogers, cost $300,000; tentative plans for expending over $2,000,000 in Dist. No. 4, comprising Benton, Washington, Crawford, Sebastian, Scott, Montgomery, Franklin and Polk Counties; C. S. Christian, State Highway Engr.

Ark., Helena—State Highway Comn., Little Rock, considering 20-ft. highway from Helena to West Helena; construction will begin in spring; will widen highway 6 ft. from West Helena to Marvell.

Ark., Pine Bluff—Bd. of Commrs., Sixth-Fifth-Ohio St. Paving Dist., J. F. Hilton, Chmn., preparing plans to grade, drain, curb, gutter and pave West Sixth, Spruce and Ohio St., Fifth Ave. 12-12

Florida—State Road Dept., Tallahassee, receives bids Jan. 15 for 4 roads: Osceola County—5.225 mi. Florida lime rock base, slag surface treatment, Road No. 24, west city limits of St. Cloud to Project No. 62-C; Broward County — 13.249 mi. plain cement conc. surface, 9-6-9-in. or 10-8-10-in., Road No. 4, Hillsboro Canal to Fort Lauderdale; Polk County—3.685 mi. plain cement conc., surface, sheet asphalt, asphaltic conc. or 1½-in. cold mix asphalt on 12-9-12-in., on Florida lime rock base, Road No. 17, Auburndale, west; Orange County—15.308 mi. plain cement conc., sheet asphalt and asphaltic conc., surface, on Florida lime rock base, Road No. 2, Plymouth to Orlando; B. M. Duncan, State Highway Engr.

Fla., Jacksonville—City, W. E. Sheddan, City Engr., plans expending about $50,000 to widen and pave Broad St.

Fla., Jacksonville—City Comn., Thomas C. Imeson, Commr., plans expending in 1930, $53,000 for paving, sewers, drainage, Liberty St., Twenty-first to Evergreen cemetery; widen to 60 ft., and pave with conc., Broad St. from State to Fifth and Broadway, cost $60,000, including sewers and drainage; probably pave about ¼ mi. Adams St. and rebuild and widen 2 blocks Lee St.; W. E. Sheddan, City Engr.

Fla., Miami—City, Welton A. Snow, Mgr., plans receiving bids for 8000 sq. yd. rock and oil pavement on north and south approaches of N. W. Seventeenth Ave. Bridge.

Fla., Tampa—City, D. B. McKay, Mayor, plans expending $29,360 to open Twenty-sixth St.; $43,000 to widen and pave sidewalks on Twenty-second St.; R. H. Cason, City Engr.

Ga., Atlanta—Fulton County Commrs., W. B. Stewart, Chmn., plans during 1930 to widen and repave West Peachtree, from Tenth St. to Peachtree St. at Pershing Point; complete North Side Dr., between Collier road and Fourteenth St.; considering widening Stewart Ave. to 40 ft., from city limits to Clayton County; resurfacing Gordon road; continue repaving Ashby St.; paving Hunter St. and repaving Boulevard, from Great Park to federal prison.

Kentucky—State Highway Comn., Frankfort, received low bids for 2 roads: Meade County—15.571 mi. grade, drain, Paynesville-Rhodelia road, Mason Payne Construction Co., Benton, Ky., $98,630; Metcalfe County—3.714 mi. grade, drain, Edmonton-Tompkinsville road, Berea Construction Co., Berea, Ky., $35,463; J. S. Watkins, State Highway Engr. 12-5

Louisiana—Louisiana Highway Comn., Baton Rouge, receives bids in Jan. for 5 roads: Calcasieu Parish—3.2 mi. gravel surface, De Quincy to Texas line; West Feliciana Parish—9.9 mi. gravel surface, Jackson to Wakefield; Vermilion Parish—6.2 mi. gravel surface and 2 mi. grading, draining, Milton to LeRoy; Allen Parish—2.9 mi. grading, draining, gravel surface, DeRidder to Oberlin; Caldwell Parish—6 mi. grading, Columbia to Chatham.

La., Lake Charles—City, J. E. Johnson, Commr. of Streets and Parks, plans expending $50,000 during 1930 for 20,000 sq. yd. conc. paving on Reid, Sixth, Hendricks, Pine and Bilbo St.

La., Monroe—Louisiana Highway Comn., Baton Rouge, may let contract in Feb. to pave 6 mi. Dixie-Overland Highway, between Calhoun, Ouachita Parish, and Tremont, Lincoln Parish; H. B. Henderlite, State Highway Engr.

Md., Baltimore—City, Bd. of Awards, received low bid from Baltimore Asphalt Block & Tile Co., 1320 N. Monroe St., $50,942, to pave Broening Highway from Colgate Creek to point south of Keith Ave.; Nathan L. Smith, Highways Engr. 12-26

Md., Towson—State Roads Comn., Baltimore, receives bids Jan. 14 for .4 mi. conc. Baltimore-Washington Blvd. at approaches to bridge over Baltimore & Ohio R. R. at Vinegar Hill; G. Clinton Uhl, Chmn.

Miss., Carrollton—Carroll County Bd. of Commrs., Separate Road Dist. No. 2, receives bids Jan. 10 for grading, graveling Avalon and Carrollton Public highway.

Miss., Jackson — City, Walter A. Scott, Mayor, considering expending $500,000 to $1,000,000 for street extension and widening, additional sidewalks, sewers, etc. in 1930.

Miss., Laurel — City plans 5000 sq. ft. sidewalks; Paul Klyce, City Engr.

Miss., Senatobia—City, Mayor and Bd. of Aldermen, plans paving and improving Church, Main and McKie St.; probably receive bids soon.

Miss., Walthall—Webster County Bd. of Supvrs. plans expending $350,000 for hard surfaced roads in 5 supvrs. districts. See Financial News Columns.

Miss., West Point—Clay County Bd. of Supvrs. plans expending $400,000 to gravel and improve various roads. See Financial News Columns. 12-19

Mo., Clayton, St. Louis—St. Louis County, Walter E. Miller, Clk., received low bids to improve 6 roads: Bellefontaine Church and Coal Bank roads, James T. McMahon Contracting Co., 1514 Farragut St., $24,370; Laclede Station road, Shockley Construction Co., 1658 Vassier, Webster Groves, $30,880; Lockwood Ave., Skrainka Construction Co., Security Bldg., $43,290; Birdie Ave. and Brown road, Bangert Bros. Construction Co., 44 Florissant road, $28,903; Roy Jablonsky, Highway Engr. 12-19

Mo., Excelsior Springs—City considering paving Kimball and Old Orchard St., 27 ft. wide, combination curb and gutter, from Dunbar to Linwood Ave.

Mo., Jackson — Cape Special Road Dist., Cape Girardeau, plans expending about $50,000 in dist. during 1930, including rebuilding 14 mi. Perryville road to Fruitland; steel spans over creeks on road.

Mo., Kahoka—State Highway Comn., Jefferson City, completed survey for 3 roads in Clark County; $500,000 available; may let contract in 1930; complete Highway No. 4 to Scotland County Line; No. 4-B to Iowa

line, north; from Wyanconda to connect with Highway No. 4; T. H. Cutler, State Highway Engrs.

Mo., Neosho—City, C. E. Clark, Clk., considering grading, conc. slab pavement, curb, on Main St., from Jefferson St. west; A. E. Thain, City Engr.; Black & Veatch, Consit. Engrs., Mutual Bldg., Kansas City.

Mo., St. Louis—City, Bd. of Public Works considering widening Gravois Ave., to 100 ft., Grand Blvd. to Twelfth St.

N. C., Greensboro—Guilford County, D. L. Donnell, Mgr., plans about 40 mi. additional highways, including bridges, underpass, etc.; Complete North road to High Point via Deep River Friends Church, 2 large bridges and underpass.

N. C., Greensboro — City, P. C. Painter, Mgr., preparing plans for 2100 sq. yd. sidewalks on Walke Ave.; Ray Warren, City Engr.

Okla., Hobart—Kiowa County plans 3 mi. gravel, Highway No. 14, north of Hobart to Washita County line; plans bridge on Highway No. 14 north of Mountain Park.

Okla., Oklahoma City—City, E. M. Fry, Mgr., plans expending $5,000,000 for streets, boulevards, bridges, sewers, etc.; W. W. Small, City Engr.

Okla., Oklahoma City—City, E. M. Fry, Mgr., plans widening Eighth St., from Santa Fe tracks to Harvey Ave.; may widen Hudson Ave., Tenth to Thirteenth St.; W. W. Small, City Engr.

Okla., Oklahoma City—City, E. M. Fry, Mgr., received low bids from M. A. Swatek Construction Co., 519½ W. Main St., at $2.50 per yd. to conc. surface Oklahoma Ave.; at $2.50 per yd. for Fortieth St., South, Shields South Oklahoma City addition; from Western Paving Co., 610 E. Grand St., at $3.50 per yd. for Warrenite bitulithic paving, Harvey Ave., and on Thirty-second St.; at $3.47 per yd. for rock asphalt paving, Woodward Ave.; W. W. Small, City Engr.

Okla., Oklahoma City—Oklahoma County, Walter DeGraffenreid, Commr., plans widening Fiftieth St. south, from oil field to Highway No. 23, south of Spencer; Sixty-third St.; Wichita short cut, etc.

Okla., Oklahoma City—City, E. M. Fry, Mgr., considering opening East Tenth St. through to Eastern Ave.; opening and widening various other streets; building Exchange Ave. Bridge; constructing viaduct on east of city, possibly by extending Central Ave.; W. W. Small, City Engr.

S. C., Summerville—State Highway Dept., Columbia, receives bids Jan. 21 for .838 mi. Route 61, at Summerville; 10,743 cu. yd. excavation, 2619 cu. yd. sand-clay surfacing, 10,085 lb. rein. steel.

Tenn., Chattanooga — City, E. D. Bass, Mayor, may receive bids Feb. 1 for 80-ft. Riverview road, from Frazier and Barton Ave. to Barton Ave. and Hixson Pike; extend South Broad St. Hooper road to St. Elmo, Alabama Ave.

Tenn., Chattanooga — Dept. of Highways and Public Works, Nashville, plans expending, during 1930, in Hamilton County, $2,690,000, for highways; Hamilton ounty, Will Cummings, Judge, plans expending, $1,180,000, for highways, including Johnson Pike, up Lookout Mountain; east brow of Signal Mountain road; extension of Hixson Pike; Brainerd Pike; Avondale tunnel; Belt road; Market St. extension, and bridge over Chattanooga Creek.

Tenn.,Chattanooga—Dept. of Highways and Public Works, Nashville, plans paving Dodson Ave., Wilson to Elmendorf; pave Chamberlain Ave. in spring, from Southern Ry. tracks to Ocoee St.; extend Dodds Ave. into Rossville; City, E. D. Bass, Mayor, may let contract in 20 days for extending Broad St. into St. Elmo and new road into Riverview from Frazier Ave. connecting with Barton Ave.

Tenn., Memphis—City, D. C. Miller, Clk., received low bids from F. S. Neeley, 106 N. McLean St., $11,573, to widen, grade, drain, curb, gutter and pave Cella St.; from Cotton Belt Construction Co., 1488 Netherwood St., $17,907, Lamar Ave.; at $10,984, to grade, drain, curb, gutter and pave 4 alleys, F. S. Neeley and Cotton Belt Construction Co.

Texas—State Highway Comn., Atlanta, receives bids about Jan. 20 for 8 roads: Navarro County——6.783 mi. rein. conc., Highway No. 32, Streetman to Richland, cost about $200,000; J. W. Alger, Res. Engr.; 8.073 mi. grading, draining, large drainage structures, Highway No. 14, Richland to Freestone County line, cost about $95,000; Culberson County—5 mi. grading, draining, large bridges, Highway No. 1, Hudspeth County line, east, through Van Horn, $58,000; A. J. Adcock, Res. Engr., Fort Davis; Freestone County—4.280 mi. grading, draining, large bridges, Highway No. 14, Navarro County line through Wortham to Limestone County line, $40,000; Mack B. Hodges, Res. Engr., Teague; Guadalupe County—7.306 mi. grading, draining, large bridges, Highway No. 3-A, from point east of Kingsbury to San Marcos River, $90,000; Capt. A. Schlafli, Res. Engr.; Cherokee County—9.267 mi. grading, draining, bridges, Highway No. 43, Road Dist. No. 1 to Rusk County line, $115,000; G. A. Bracher, Res. Engr.; Trinity County—9.773 mi. gravel base course, double bit. surface treatment, Highway No. 106, Houston County line to intersection with Highway No. 94, $150,000; C. C. Cannon, Res. Engr.; Aransas County—11.770 mi. grading, draining, Highway No. 57, Lamar to Refugio County line, $50,000; Fred M. Percival, Res. Engr.; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comn., Austin, receives bids about Feb. or Mar. for 7 roads: Bowie County—8.36 mi. single bit. surface treatment, Highway No. 8, Boston to Corley, estimated cost $66,975; J. D. Metcalfe, Div. Engr., Paris; Johnson County—13.9 mi. asphaltic seal coat, Highway No. 2-A, Burleson to Cleburne, estimated cost $15,000; John Mead, Div. Engr., Fort Worth; Tarrant County—13.4 mi. asphaltic seal coat, Highway No. 2, Fort Worth to Wise County line, $14,000; John Mead, Div. Engr., Fort Worth; Tom Green County—10.5 mi. asphaltic seal coat, Highway No. 30, from Schleicher County line, north, $16,185; A. F. Moursand, Div. Engr.; Polk County—42.31 mi. double bit. surface treatment, Highway No. 35, Angelina County line to San Jacinto County line, $123,500; Edward F. Maddox, Div. Engr., Lufkin; Jefferson County—.227 mi. double bit. surface treatment and rebuilding base, Highway No. 8, Hardin County line to end of present pavement, Jim Douglas, Div. Engr., Houston; Fayette County—8.238 mi. single bit. surface treatment, Highway No. 73, Fayetteville to Austin County line, $15,850; S. C. McCarty, Div. Engr., Yoakum; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comn., Austin, appropriated funds to Lubbock, Potter, Wharton, Jasper and Wood Counties, for road and embankment work; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comn., Austin, receives bids Jan. 20 for 9.048 mi. gravel base course, conc. pavement, asphalt surfacing on bridge floors, State Highway No. 114, from near Maple Ave., Dallas, Dallas County to Tarrant County line; C. L. Williford, Res. Engr.; Jones and Taylor Counties—21.883 mi. grading, draining, conc. pavement, State Highway No. 4, Abilene to Anson; W. J. Van London, Res. Engr., Abilene; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comn., Austin, appropriated funds to Hardin, Falls and Orange Counties for road work; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comn., Austin, receives bids about Feb. or Mar. for 7 roads: Fannin County—7.3 mi. single bit. surface treatment, Highway No. 42, Trenton to Whitewright, estimated cost $12,060; J. B. Metcalfe, Div. Engr., Paris; Hunt County—5.06 mi. single bit. surface treatment, Highway No. 42, Fannin County line to Celeste; J. D. Metcalfe, Div. Engr., Paris, Parker County—5.5 mi. double bit. surface treatment, Highway No. 10, Johnson County line to Tarrant County line, estimated cost $17,430; John Mead, Div. Engr., Fort Worth; Brewster County—51.54 mi. seal coat, Highway No. 3, point west of Pecos to Jeff Davis County line, estimated cost $48,550; G. B. Finley, Div. Engr., Balmorhea; Terrell County—42.81 mi. seal coat bit. treatment, Highway No. 3, Pecos County line to point east of Dryden, estimated cost $47,470; G. B. Finley, Div. Engr., Balmorhea; Mason County—13.45 mi. single bit. surface treatment surface, Highway No. 9, Llano River to Gillespie County line, estimated cost $28,775; A. F. Moursand, Div. Engr., San Angelo; Sutton County—22.3 mi. single bit surface treatment, Highway No. 30, Sonora to Edwards County line, estimated cost $42,200; A. F. Moursand, Div. Engr.; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comn., Austin, receives bids probably in Feb. or Mar. for 10 roads: Anderson County—3.9 mi. double bit. surface, Highway No. 43, Neches to Neches River, estimated cost $11,060; Williamson County—7 mi. single bit. surface, Highway No. 74, Florence, east, estimated cost $14,660; D. E. H. Manigault, Div. Engr., Austin; Cooke County—bit. seal coat on 14.28 mi. Highway No. 40, from south city limits of Gainesville to Denton County line, estimated cost $15,830; Clifton Rice, Div. Engr., Dallas; Bowie County—5.1 mi. double bit. surface treatment, Highway No. 1, point east of Red Water to point east of Maud, estimated cost $14,810; J. D. Metcalfe, Div. Engr., Paris; Johnson County—1.65 mi. double bit. surface treatment, Highway No. 10, Cresson to Parker County line; John Mead, Div. Engr., Fort Worth.

In Potter County—11,31 mi. single bit. surface treatment, Highway No. 33, Amarillo to Carson County line, estimated cost $28,485; W. A. French, Div. Engr., Amarillo; Coleman County—7.67 mi. single bit. surface treatment, Highway No. 7, point near Novice to Taylor County line, estimated cost $14,586; A. F. Moursand, Div. Engr., San Angelo; Eastland County—10.04 mi. double bit. surface treatment, Highway No. 67, Stephens County line to Eastland city limits, estimated cost $84,355; Tyler County—1.5 mi. double bit. surface treatment, Highway No. 15, Van Zandt County line to Wood County line, estimated cost $16,475; Dewitt C. Greer, Div. Engr., Tyler; Fayette County—3.293 mi. single bit. surface treatment, Highway No. 72, Schulenberg to Lavaca County line, S. C. McCarty, Div. Engr., Yoakum; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comn., Austin, receives bids in Feb. or Mar. for 4 roads: Collins County—4.15 mi. double bit. surface treatment, Highway No. 39, from Hunt County line, estimated cost $11,460; John Mead, Div. Engr., Fort Worth; Dickens County—17.22 mi. bit. seal coat, Highway No. 18 and 53, from point north of Dickens to Crosby County line, estimated cost $22,000; Joe H. Caldwell, Div. Engr.; Williamson County—5.9 mi. rebuilt base and single bit. surface treatment, Highway No. 29, Liberty Hill to Burnet County line, total estimated cost $26,730; D. E. H. Manigault, Div. Engr., Austin; Draper County—8 mi. double bit. surface treatment, Highway No. 8, south from Jasper, estimated cost $49,500; Edward F. Maddox, Div. Engr., Lufkin; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comn., Austin, receives bids Feb. or Mar. for 3 roads: Robertson County—20.6 mi. rebuild base, and bit. top, Highway No. 6, point south of Calvert to Falls County line, estimated cost $46,460; John E. Blair, Div. Engr.; Dickens County—10 mi. bit. surface mixture, Highway No. 18, south from Motley County line, estimated cost $39,960; Joe H. Caldwell, Div. Engr.; Red River County—9.7 mi. double bit. surface treatment, Highway No. 5, Bowie County line to point near English, estimated cost $28,170; J. D. Metcalfe, Div. Engr., Paris; Gibb Gilchrist, State Highway Engr.

Texas—State Highway Comn., Austin, receives bids about February or March for 5 roads: Hunt County—5 mi. single bit. surface treatment, Highway No. 34, from city limits of Greenville, south, estimated cost $20,000; J. D. Metcalfe, Div. Engr., Paris; Lamar County—single bit. surface treatment, Highway No. 39, end of Federal Aid Project No. 343-A to Red River Bridge, estimated cost $18,875; J. D. Metcalfe, Div. Engr.; Gregg County—2.56 mi. double bit. surface treatment, Highway No. 31, estimated cost $13,600; D. L. Hogan, Div. Engr., Tyler; Smith County—4 mi. double bit. surface treatment, Highway No. 64, east from Tyler, estimated cost $30,000; D. L. Hogan, Div. Engr.; Nolan County—7.82 mi. bit. seal coat, Highway No. 70, Coke County line, north, estimated cost $7450; W. J. Van London, Div. Engr., Abilene; Gibb Gilchrist, State Highway Engr.

Tex., Anson—Jones County, Owen Thomas Judge, plans 18.281 mi. grading, draining, conc. pavement, Highway No. 30, Taylor County line; estimated cost $595,000; J. W. Puckett, Res. Engr., Stamford.

Tex., Albany—City plans expending during 1930, $25,000 for street paving; Shackelford County plans expending about $200,000 for roads.

Tex., Angleton—Brazoria County considering expending $4,500,000 for 143 mi. roads, including paving Highway No. 35, Alvin to Harris County line, to connect with Highway No. 58, Galveston County; proposed highway between Alvin and Fort Bend County line, connecting with Richmond; Highway No. 19, Harris County line to Freeport through Angleton; Highway No. 58, from Galveston County line through Alvin and Angleton; Highway No. 36, Freeport to West Columbia. See Financial News Columns. 1-2

Tex., Corpus Christi—City, Theo. Koester, Sec., plans expending $115,00 for street widening. See Financial News Columns. 11-28

Tex., Corpus Christi—Nueces County Commrs. Court, Nat Benton, County Judge, plans 97 mi. highways, and 159 mi. county roads, 16 to 20 ft. wide; conc., limestone base topped, mud shell; cost about $2,500,000; Calvin E. Cock, County Engr.; will sell bonds. 12-26

Tex., Corsicana — State Highway Comn., Austin, receives bids Jan. 20 for 3.949 mi. grading, draining, Highway No. 139, north

end of Highway L-A to Corsicana; J. W. Alger, Res. Engr.

Tex., Cotulla—State Highway Comn., Austin, plans starting in few days 7 mi. paved highway in LaSalle County, from Webb County line, north; Gibb Gilchrist, State Highway Engr.

Tex., Dallas — Dallas County Commrs. Court, Charles E. Gross, County Auditor, plans receiving bids in about 4 weeks to pave Buckner Memorial Blvd. at underpass on Santa Fe Ry. near Reinhardt.

Tex., Goose Creek—City Council plans receiving bids to pave Pierce Ave., Commerce to Gaillard, and Commerce St., Defee to Gulf.

Tex., Groesbeck—Limestone County Commrs., Johnson Wakefield, County Judge, plan expending about $715,000 to improve 3 roads: 40-mi. highway from Mart to Jewett; road from Navasota River to Groesbeck city limits; road from Groesbeck, 4 mi. south. See Financial News Columns. 12-12

Tex., Hallettsville—State Highway Comn., Austin, probably receive bids Jan. 21 for 3.224 mi. grading, draining, Highway No. 109, from Road Dist. No. 4 line to connect with Highway No. 72, Lavaca County; cost about $28,000; Aug. W. Hanzen, County Judge; Gibb Gilchrist, State Highway Engr.

Tex., Hempstead—Waller County, W. M. Wheeler, Judge, plans 7.111 mi. grading, draining, large drainage structures, Highway No. 20, Austin-Houston road, Hempstead to Brazos River, estimated cost $226,000; H. G. Haynes, Res. Engr.

Tex., Johnson City—State Highway Comn., Austin, appropriated funds to Blanco County, toward re-building base, and single bit. surface treatment, 26.8 mi. Highway No. 20, Austin-Fredericksburg road, from Travis County line to Gillespie County line, total estimated cost $89,000; D. E. Manigault, Div. Engr.

Tex., Karnes City—State Highway Comn., Austin, plans grading and repairing Highway No. 72 from DeWitt County line through Runge, Karnes County, to San Antonio River; Gibb Gilchrist, State Highway Engr.

Tex., Keerville—Kerr County considering re-routing Old Spanish Trail between Kerrville and Comfort, cost about $500,000. See Financial News Columns.

Tex., Laredo—Webb County, Justo S. Penn, Judge, plans 3.367 mi. grading, draining, Highway No. 2, from Alamo St., Laredo, north, estimated cost $12,200; T. E. Huffman, Res. Engr.

Tex., Lockhart — State Highway Comn., Austin, approved building highway between Lockhart and Martindale, Caldwell County, connecting with State Highway No. 80, San Marcos to Luling; M. O. Flowers, County Judge.

Tex., Marshall—City receives bids Jan. 15 for $450,000 street paving project.

Tex., Matador—Motley County, J. Floyd Jordan, Judge, plans receiving bids soon for 18.575 mi. grading, draining, Highway No. 28, Matador to Cottle County line, estimated cost $161,500; E. W. Mars, Res. Engr.

Tex., Marshall — State Highway Comn., Austin, plans widening Highway No. 80, in Harrison County;Gibb Gilchrist, State Highway Engr.

Tex., Midland — Midland County receives bids Jan. 15 for conc. paving on Wall St.

Tex., Quanah—City plans expending during 1930, $1,000,000 for highway paving.

Tex., Rankin—Upton County, C. H. Latson, Judge, plans 4.914 mi. grading, draining Highway No. 99, Crane County line to McCamey, estimated cost $25,000; P. H. Caldwell, Jr., Res. Engr., Stockton.

Tex., Sterling City—Sterling County, B. F. Brown, County Judge, plans 19.914 mi. grading, draining, Highway No. 9, Sterling City to Glasscock County line, estimated cost $94,000; T. J. Kelly, Res. Engr.

Tex., Tyler—Smith County plans starting soon to pave 3 mi. Highway No. 31 near Gladewater.

Tex., Victoria — Victoria County, J. J. Woodhouse, County Judge, plans Highway No. 113, from or near Victoria to Refugio County line; D. K. Shepard, Engr., Edna.

Tex., Waxahachie—State Highway Comn., Austin, plans improving 22 mi. Highway No. 14, Ellis County, from Dallas County line to Navarro County line, through Ferris, Palmer and Ennis; Gibb Gilchrist, State Highway Engr.

Virginia — State Highway Comn., Richmond, received low bids for 3 roads: Isle of Wight County—.7 mi. grading, draining, Route 10, from Smithfield, Perkins and Barnes Construction Company, Blackstone; Gloucester County—1.9 mi. grading, draining, Route 29, from Adner, Perkins & Barnes Construction Co.; Scott County — 2.2 mi. macad., Route 10, from Clinchport, Jim Frank, Clinchport. 12-12

W. Va., Charleston — Kanawha County Court plans expending during 1930 $1,500,000 for road work; City, Mayor Wertz, probably expend $500,000 for streets.

W. Va., Charleston — Kanawha County Court, R. N. Moulton, Clk., received low bid from R. L. Black, for 3.17 mi. grading Kellys Creek, from Midland Trail; $75,000 available. 12-12

Contracts Awarded

Ga., Savannah—City Council let contract to Dixon Contracting Co., 793 E. St. Julian St., Savannah, $12,322, to conc. pave Harmon St. 30 ft. wide, Wheaton to Gwinnett St.; R. M. Bailey, City Engr. 12-5

La., Independence—Town, I. N. Stafford, Clk., let contract to Ziegler Brothers, S. Green St., Greensboro, N. C., at $2.40 per yd. for 7000 sq. yd. conc. paving; E. G. Frelier, Engr., Hammond, La. 1-2

Md., Baltimore — City, Highways Dept., Nathan L. Smith, Highways Engr., let contract to Peter Averza, 104 N. Highland Ave., $17,535, to repair cement conc. footways.

Miss., New Augusta—Perry County let contract to Richton Investment Co., Richton, $25,749, for 6.439 mi. grading, graveling Richton-Beaumont Highway.

Mo., Campbell—City Council let contract to Gassmans Construction Co., Poplar Bluff, for 7 blocks of street paving.

Okla., Tulsa—City, Dan W. Patton, Mayor, let contract to Porter Construction Co., Lewis & Frisco tracks, for 7-in. conc. paving, Dist. No. 1003; Standard Paving Co., 2119 E. Eleventh St., $72,783, for 7-in. conc. paving, Dist. No. 1005; to Carl Pleasant, Inc., 229 N. Nogales St. for 6-in. conc. paving, Dist. No. 1004; K. R. Teis, City Engr.

Okla., Hooker—City, Roy Cline, Clk., let contract to Earl W. Baker & Co., Perrine Bldg., Oklahoma City, $13,137, for 3,200 yd. 6-in. conc. paving, Dist. No. 8.

Tennessee—Dept. of Highways and Public Works, Nashville, let contracts for 2 roads and 3 bridges; Grundy County — 12,696 mi. grading, draining, Altamont to Coffee County line, Walters & Prater, Morristown, $278,946; 12.063 mi. grading, draining, Highway No. 108, Palmer to Whitwell, Chandler Bros., Bellevue, Tenn., $277,083; Lincoln County—3 steel and conc. bridges, Highway No. 15, J. R. Murphy & Sons, Hapsville, $183,082. 12-5

Tennessee—Dept. of Highways and Public Works, Nashville, let contracts for 2 roads and 4 bridges: Robertson County—10.176 mi. grading, draining, Highway No. 49, Springfield to Cheatham County line, Lebanon Bridge Co., Franklin, $110,122; Polk County—3.897 mi. grading, draining, Highway No. 74, Parkville to Greasy Creek, Walters & Prater, Morristown, $93,608; Hamilton County—overhead and approaches over C. N. O. and T. P. R. near Daisy, Highway No. 29, Phillips Construction Co., Waynesville, N. C., $27,432; Sullivan County—2 overheads and approaches over C. C. & O. Ry., Highway No. 36, between Washington County line and Kingsport, R. H. H. Blackwell, Kingsport, $66,782; Shelby County—bridge and overhead, F. V. Ragsdale & Co., Dermon Bldg., Memphis, $175,825; T. E. McEwen, State Highway Engr. 12-5

Tex., Beaumont—City Comn., J. W. Anderson, Mgr., let contract to Scott Shambaugh, Houston, $24,629, to pave South St. by Beaumont High School, and street on east border of school.

Tex., Fort Sam Houston, San Antonio—U. S. Government, Capt. Wm. R. White, Constructing Quartermaster, let contract to J. L. Black, 122 Tremlett St., for about 2,800 sq. yd. gravel roadways, 9,770 sq. ft. cement walks, 2,400 sq. yd. grading, around buildings. 12-12

Tex., San Antonio—Bexar County, Perry S. Robertson, County Judge, let contract to Wm. Reilly, 117 Dunning Ave. for sidewalk on Courthouse property. 12-19

Tex., Fort Worth—Tarrant County, S. D. Shannon, Judge, let contract to Ernest Loyd Sand & Gravel Co., Birdville Rd., $13,802, to gravel Arlington-Grapevine road from Trinity River, north; Damon A. Davis, County Engr.

Va., Richmond—City, R. Keith Compton, Dir. of Public Works, reported, let contract to E. L. Bass, 708 Bainbridge St., $65,000, to widen Fourteenth St. to 60 ft., between Main and Cary St.; J. Fulmer Bright, Mayor.

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ala., Birmingham—City, reported, plans reconstruction of sanitary sewers on Southside; cost $130,000; H. A. Hawkins, Engr.

Ark., Berryville—City Council authorized formation of sewer improvement district to include entire city; plans sewer system.

Ark., Hot Springs—Commrs. of South Hot Springs and Oaklawn Sewer and Water Improvement Dist. No. 2 of Garland County receive bids Jan. 21 for 13 miles sewer lines and 13 miles water lines. See Want Section —Bids Asked.

Fla., Jacksonville—See Roads, Streets, Paving.

Ga., Columbus—J. B. McCrary Eng. Corp., Citizens & Southern Bk. Bldg., Atlanta, has contract for sanitary sewers; cost $95,000. 1-2

Miss., Eupora—W. T. Rose, reported, has contract for labor, materials for laying clay pipe sewer. 10-24

Miss., Jackson — City, Walter A. Scott, Mayor, plans $500,000 improvements in 1930 in sewers, street extensions, etc.

Mo., Bridgeton—Bd. of Public Service receives bids Feb. 4 for construction 2 sewers at municipal airport.

Mo., Ferguson—St. Ferdinand Sewer Improvement Dist., St. Louis County, reported, plans combination sewers in 12,000 acre tract; cost $2,500,000; Hancock Engr. Co., Engrs., 6228 Easton Ave., Wellston. 9-19

Mo., Springfield—City plans bond issue to complete sanitary sewer system and provide system of storm sewers, extension of fire fighting facilities, etc.

Mo., St. Louis — Bd. of Public Service, reported, soon receive bids for reconstructing Ohio Ave. sewer, cost $28,000; Warne Ave. sewer, $20,000.

N. C., Greensboro—City, C. W. Smedbury, Supt. Water Dept., reported, receives bids latter part of Jan. for sewage disposal plant on Buffalo Creek; cost $300,000. 12-26

Okla., Enid—City has preliminary plans for $100,000 storm sewers; George Glendenning, Engr.

Okla., Oklahoma City—H. B. Derr, 408 E. Twelfth St., reported, low bidder for sanitary lateral sewers in Barrow's Addition, Capitol Park Addition, etc.

Okla., Oklahoma City—City, Wm. W. Smill, Engr., will probably begin extension of Blackwelder storm sewer to serve Virginia Ave. district when storm sewer now under construction is finished.

Okla., Woodward — City, C. Greening, Clk., reported, let contract to L. S. Fisher Const. Co., Woodward, at $31,782 for sanitary sewers in Dist. 1 and 2; Black & Veatch, Consit. Engrs., Mutual Bldg., Kansas City, Mo.

Tenn., Knoxville—City soon let contract for Broadway trunk sewer and laterals; cost $800,000.

Tex., Corpus Christi—City voted $10,000 storm sewer bonds and $10,000 sanitary sewer bonds and $20,000 park bonds. 12-5

Tex., Edna—See Water Works.

Tex., Georgetown—City voted $60,000 bonds for purchase of sewer system and extensions; M. F. Smith, Mayor. 12-5

Street Railways

Arkansas—See Electric Light & Power.

La., New Orleans — New Orleans Public Service, Inc., constructing approx. 4 mi. of track in Canal St. neutral ground, between river and Claiborne Ave., using new type of track.

Okla., Tulsa—United Service Co., successor to Tulsa Street Ry. Co., expend $137,000 in 1930.

Telephone Systems

Fla., Jacksonville — Western Union Telegraph Co., Inc., 195 Broadway, New York,

leased site. Laura and Duval St., and has plans in progress for 5-story building; approx. 105x105 ft., front of face brick with terra cotta trim, 4 store spaces on Laura St.; Marsh & Saxelbye, Archts., Consolidated Bldg., Jacksonville.

La., Monroe—Southern Bell Telephone & Telegraph Co., Atlanta, Ga., expend $160,000 in Monroe area in 1930, for cable additions, underground cables, business section.

Miss., Gulfport—Southern Bell Telephone and Telegraph Co., F. M. Craft, Ch. Engr., Atlanta, Ga., let contract to Western Electric Co., 195 Broadway, New York, for repeater station; $50,000.

Mo., Pattonville—Southwestern Bell Telephone Co., W. O. Pennel, Engr., Telephone Bldg., St. Louis, let contract to Fred Howell, 418 E. Adams St., Kirkwood, for exchange bldg., Oak Ave. and Fee Fee Rd.; 1 story, brick, rein. conc., 27x29 ft.; I. R. Timlin, Archt., Telephone Bldg., St. Louis.

Mo., Springfield—Southwestern Bell Telephone Co., Telephone Bldg., St. Louis, expend $100,900 in city for extension of service.

Mo., St. Joseph—Southwestern Bell Telephone Co., I. R. Timlin, Archt., Telephone Bldg., St. Louis, advises erection of telephone building indefinitely postponed and will probably not materialize for year or two. 1-2

N. C., Greensboro — Southern Bell Telephone & Telegraph Bldg., Atlanta, Ga., W. B. Little, Dist. Mgr., reported, expend $2,000,000 in 1930 for new building, new equipment and installing dial system.

Okla., Altus—Sothwestern Bell Telephone Co., C. W. Mier, Engr., Oklahoma City, expend over $250,000 in city in 1930, including modern, fireproof building, new cables, outside plant equipment and underground lines.

S. C., Columbia—George T. Barnes, Greenwood, authorized by Federal Radio Comn., Washington, to establish broadcasting station; establish studio in Jefferson Hotel.

Tex., Nacogdoches — Southwestern Bell Telephone Co., St. Louis, Mo.; erect telephone building.

Tex., Port Arthur—Southwestern Bell Telephone Co., O. J. Clements, Local Mgr., B. D. Hull, Engr., Dallas, will build new telephone lines in city in 1930, including extension of service to Portacres, Del Mar and Lakeview additions and section in West Port Arthur; probably install new equipment.

Tex., San Antonio—Southwestern Bell Telephone Co., I. R. Timlin, Archt., Telephone Bldg., 1010 Pine St., St. Louis, Mo., let contract to American Construction Co., Gulf Bldg., Houston, for steel erection in connection with telephone building; architect completed and ready for distribution about Janvises plans and specifications to be comuary 15. 1-2

Tex., San Antonio—Southwestern Bell Telephone Co., B. D. Hull, Engr., Dallas, reported, plans expending about $5,000,000 in city and Southwest Texas in 1930.

Tex., San Diego — Laredo Southeastern Telephone Co., Laredo, acquired site for exchange building.

Tex., Sherman—Northern Texas Telephone Co. increasing capital stock, $464,500 to $670,000.

Tex., Sherman—Northern Texas Telephone Co. plans erecting exchange building N. E. cor. East Wall and N. Walnut Sts.

Va., Bristol — Inter-Mountain Telephone Co., W. M. McAnge, Jr., Pres., Telephone Bldg., reported, expend $250,000 in 1930 for expansion.

Textile Mills

Ga., Griffin — Griffin Mills, incorporated; $500,000 common stock, to which $750,000 preferred stock is to be added before plant begins operating; install new machinery; R. E. Hightower, Jr., Treas., Thomaston. 11-14

N. C., Charlotte—Fleetwood Silk Hosiery Mill, reported, install 6 hosiery machines in plant on N. Brevard St. 4-11

N. C., High Point—O. E. Kearns & Son, Inc., capital $200,000, chartered; O. E. and T. J. Kearns.

N. C., Ronda—B. H. Hamilton, Salisbury, reported, acquired Wilco Mills, Inc.; increase capital, $200,000 to $500,000; plan complete reorganization.

N. C., Spray—Leaksville Woolen Mills, Inc., with mills at Spray and Charlotte, reported, acquired Leaksville Cotton Mills.

N. C., Swannanoa—Beacon Mfg. Co., New Bedford, Mass., has foundation poured for finished goods warehouse; brick, conc. and steel, 120x134 ft., 5 stories, built-up roofing, conc. floors and conc. foundation; cost $150,000; construction by owner; Knight & Richmond, Archts., 526 Grosvenor Bldg., Providence, R. I.; George B. Barker, in charge. 12-26

S. C., Clearwater — United Merchants & Manufacturers, Inc., Homer Loring, Pres., 31 Milk St., Boston, Mass., reported, plan erection of finishing plant to handle output of 3 mills—Langley Mills, Langley; Aiken Mills, Bath, and Seminole Mills, Clearwater; install 7000 spindles at Aiken plant and 5000 in Clearwater plant; Charles T. May, Engr., Boston, Mass. 8-8

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Ala., Birmingham — Birmingham Water Works Co., Harry H. Horner, V. P., and Gen. Supt., reported, expend $500,000 for expansion, $350,000 will be used in pipe line extension, repaving and reinforcing lines, additional meters, etc.; $150,000 for buildings, replacing dam on Cahaba River and standby pump at Rosedale Station.

Ala., Opp—City plans installing pumping machine in water works plant.

Ark., Prairie Grove—Waterworks Imprv. Dist. No. 3, reported, plans water works and distribution system.

Ark., Star City—Waterworks Impv. Dist. No. 4. Bd. of Commrs., reported, plans water works and distribution system addition; install fire hydrants, engines, etc.; cost $35,000; R. P. Parker, Engr., Box 126.

Ga., Atlanta—Water Dept., recommended appropriation of $500,000 for constructing settling basin at river plant; W. Zode Smith, Supt. Water Dept.

La., Thibodaux—Town voted $200,000 bonds for water plant, purification and distributing plant.

Md., Baltimore—City has plans in preliminary stage for Ashburton Pumping Station; 1 story, brick, estimated cost $100,000; Warren Viessman, Mech. Electrical Engr., 319 Municipal Bldg.; Leon Small, Supv. Elec. Engr., 600 Municipal Bldg.

Mo., California—City soon let contract for pump station; Leroy Parrish, Archt.

Okla., Hollis—Asplund Const. Co., 309 E. Oak St., Enid, has contract for $43,500 extension to water works system, including pumping plant, storage plant, storage reservoir and power plant; will construct transmission line; install pumps, motors, engines and generators; V. V. Long & Co., Consit. Engrs., Colcord Bldg., Oklahoma City; Fulton Iron Works, St. Louis, Mo. and Warren Steam Pump Co., Inc., Warren, Mass., Mchy. Contrs. 12-26

Okla., Tecumseh — Sherman Const. Co., Oklahoma City, reported, has contract for water and sewer extensions; cost $120,000; V. V. Long & Co., Engrs., 1300 Colcord Bldg., Oklahoma City. 12-26

Tex., Edna—City, reported, call for bids about Jan. 22 for water works and sewers; $110,000 bonds available. 1-2

Tex., Houston—City, James H. B. House, Water Commr., plans water plant between Harrisburg and Park Place to serve East End area; cost $400,000; James H. B. House, Water Commr., requested appropriation of $2,900,000 for 2 yr. expansion program; J. Sauls, Engr., will prepare tentative plans for pumping station.

Woodworking Plants

Fla., Jacksonville—Nissen-Wolf Mfg. Co., recently organized, reported, establishing plant, 2-story building, 850 Florida Ave., to manufacture pipe organs and special cabinet work.

N. C., High Point—Hill Veneer Co., E. Russell St., installing cutting department at panel plant; $35,000.

N. C., High Point—Alexander Mfg. Co., George F. Alexander, 701 Montlien St., open furniture plant in warehouse, S. Wrenn St., in few days; initially manufacture living room tables and furniture exclusively; remodel buildings; employ 30 to 40.

Va., Bristol—See Marion.

Va., Marion—Virginia Table Co., Inc., C. C. Lincoln, Jr., Pres., and Lincoln Furniture Mfg. Co., Inc., merging, effective Jan. 1; plan erecting plant at Marion and Bristol in early spring.

Va., Pulaski—Cheves Mfg. Co. erect $15,000 plant, Pearce Ave. and Dora Hwy., to manufacture oak tile block flooring; employ 25; begin operation about May 1.

Va., Pulaski—Pulaski Veneer Corp., C. E. Richardson, Gen. Mgr., erect building on Fifth St., for glue plant; steel and brick; 120x200 ft.; construct 4 additional dry kilns, 150x20 ft., with tracks, transfer and building sheds; plant with equipment to cost $750,000.

FIRE DAMAGE

Ala., Bessemer—Renner Bldg., 19th St. and Carolina Ave., owned by J. P. Renner; loss $10,000.

Ala., New Hope—Ed Butler's residence; loss $12,000.

Ala., Samson—P. Kersey's residence.

Ark., Brookland—L. R. Noble Hotel; Epps' Bldg.

Ark., Booneville—Rightway Store owned by H. G. Murphy; grocery store operated by I. O. Warren and Ervin Jackson; olss $10,000.

Ark., Corning—St. James Hotel; loss $12,000.

Ark., Fort Smith—Oglesby Feed Co.'s mill, Carnall Ave. and S. Tenth St.

Ark., Gurdon—W. S. Hearin's 2 stores, buildings owned by James G. Clark, Arkadelphia, and American Building and Loan Assn., Little Rock.

Ark.-Tex., Texarkana—Grandstand at Legion Park.

Ark.-Tex., Texarkana—D. and Sam Milazzo's buildings, 206-08 W. Broad St.

Fla., Tampa—Tampa Yacht and Country Club's building; loss $30,000.

Ga., Metter — Dreamland Theater, owned by M. H. Haymans.

Ky., Bowling Green—Brooke Payne's residence near Bowling Green; loss $8000.

Ky., Greensburg—Greensburg Milling Co.'s plant; R. L. Durham Co.'s lumber warehouse; combined loss $47,000.

Ky., Lexington—Residence, Richmond Pike, owned by I. J. Engle, Pres.-Gen. Mgr., Engle & Given Coal Co.; loss $9000.

Ky., Louisville— Standard Gravure Corp.'s plant; loss $35,000.

Ky., Louisville—Warehouse of Mengel Co., 11th St.

Ky., Manchester—Carnahan Bldg., occupied by W. D. Baker & Co., Keith Drug Co., Bond Barber Shop, Kentucky Utilities Co.; loss $100,000.

Ky., Wolfpit — Post Office; address the Postmaster.

La., Florien—Stores of B. L. Williams and Lee McClanahan; Postoffice.

La., Lake Charles—Frank Bldg., Ryan and Broad Sts., owned by Frank Realty Co.; loss $100,000.

La., New Orleans—Warehouse of Celotex Co., loss $65,000; H. G. Hill store, loss $12,800.

Md., Baltimore—Federal Tin Co.'s plant, Barre and Charles Sts.

Md., Baltimore—Warehouse belonging to Baltimore & Ohio R. R.'s repair yard at Locust Point, near Fort Ave.: H. A. Lane, Ch. Engr.

Md., Ilchester—Laundry and quarters of several employees of Donaldson School, Richard Bomberger, Headmaster.

Miss., Hickory Flat — First Methodist Church; loss $18,000.

Miss., Iuka—W. S. Brown's store.

Miss., New Albany—Mrs. Edd Irby's filling station, between Bankhead Hwy. and Oxford Road.

Miss., McComb—V. C Dickey Motor Co.; Williams Cafeteria; loss $50,000.

Miss., Pheba — Boys' dormitory at Clay County Agricultural High School.

Miss Potts Camp—Methodist Church, Rev. C. O. Cox, Pastor; loss $15,000.

Mo., Arrow Rock—Post Office; address The Postmaster, and grocery store.

Mo., Caruthersville—Rampendahl Stave & Heading Co.'s mill and dry kiln; loss $20,000 to $30,000.

Mo., St. Louis — Standard Auto Service Co.'s garage, Olive St.; W. L. Alexander, owner; loss $75,000.

N. C., Asheville—Federal Mortgage Co.'s building, 16 Biltmore Ave., occupied by Racket Store, L. Blomberg, Propr.; loss $35,000.

N. C., Chapel Hill—Chi Psi Fraternity on Cameron Ave.

N. C., Claremont — St. Marys Lutheran Church; loss $12,000.

N. C., Elizabethtown—Citizens Motor Co., building; loss $30,000; Mrs. Mattie Clark, owner; Kinlaw store, owned by Roy Cain; N. L. Tatum's store; McCulloh & Britt's law offices; Dr. G. F. Bullard's office.

N. C., Goldsboro—Warehouse owned by Atlantic Coast Line, J. E. Willoughby, Ch. Engr., Wilmington, and Southern Ry. Co., G. L. Sitton, Ch. Engr., M. W. & S., Lines East, Charlotte; loss $23,000.

N. C., Hertford—Major & Loomis Co.'s dry lumber plant; loss $100,000.

N. C., High Point—J. W. Reavis' garage, 1321 S. Main St.

N. C., Rocky Hock, R. D. from Tyner—S. M. Lynch's residence.

N. C., Rutherfordton—Mrs. Henry Moore's residence, Oakland section.

N. C., Wallace—L. W. Boney's building, Main St., occupied by Wallace Enterprise, weekly newspaper; loss $45,000.

Okla., Hobart — Fleming Gin, owned by Chickasha Cotton Oil Co. and Fred L. Fleming; loss $20,000.

Okla., Oklahoma City—E. Highfill's residence, 63rd St.

Okla., Seminole—Pickering Lumber Co.'s supply house and adjacent cottage; loss $25,000.

S. C., Anderson—Bleckley Bldg. owned by Sylvester Bleckley Estate; loss $10,000.

S. C., Columbia—Residence, near Camden Rd., of J. S. White, Bldr.; loss $10,000.

S. C., Cottageville—Jas. Kinard's residence.

S. C., Georgetown—Bernard M. Baruch's winter residence "Hobcaw Barony," Waccamaw Peninsula.

S. C., Orangeburg—Shuler & Smoak's warehouse on tracks Atlantic Coast Line R. R.

S. C., Spartanburg—Clubhouse of Spartanburg Country Club; loss $35,000.

S. C., Springfield—Old Mine Hotel occupied by H. B. Fulmer as boarding house.

Tenn., Brownsville—Bond Stables, Budd's Garage, Masonic Hall; loss $40,000.

Tex., Bonham — Fannin County courthouse. Address County Bd. of Commrs.

Tex., Bryan—Geo. Foster's country residence, "River Oaks," at Jones Bridge, Brazos River; loss $35,000.

Tex., Bryan—M. Bonneville's dry goods store, Bryan and 24th Sts.; loss $22,000.

Tex., Carthage—Tullos Hotel. Address The Proprietor.

Tex., Cedar Hill—Gin owned by Oil Mill & Gin Co., of Midlothian; loss $30,000.

Tex., Claude — Harrell & McFarland's garage.

Tex., Denton—Bob Woodword's residence, E. Oak St.; loss $7000 to $8000; Bateman Garage, S. Locust St.; loss $3000.

Tex., Edinburg—Savage Wholesale Grocery Co.'s warehouse.

Tex., El Paso—Continental Trunk & Bag Co.'s plant, 214-20 S. Stanton St.; loss $40,000 to $50,000.

Tex., Galveston—Atlanta Hotel, 2427 Church St., W. T. Hall, Mgr.; loss $10,000.

Tex., Gonzales — L. D. Buchanan's residence, Shiner Rd.

Tex., Groesbeck—H. W. Gabbrell's cotton gin; loss $20,000.

Tex., Mexia — Ernest Watson's residence; loss $20,000.

Tex., Port Arthur—Gulf Furniture Co.'s warehouse, 9th St. and Fort Worth Ave.; Richards & Bean Lumber Sheds; loss $50,000.

Tex., Sour Lake—J. M. Ainsworth's residence.

Tex., Temple—Roddy Brothers' department store; loss $100,000.

Va., Cloverdale—P. C Kinsey's residence near Cloverdale.

Va., Danville—Dr. H. G. Dudley's residence near Danville; loss $10,000.

Va., Danville — Colonial Garage, 115 N. Market St.

Va., Marion — U. S. Jackson lumber plant; W. S. Jackson, owner.

Va., Norton—Fuller Brothers' Bldg. occupied by Norton Bargain Store owned by M. B. Purcell, Fair Store owned by Fuller Bros. Inc.; loss $35,000.

W. Va., Spencer—Thompson Drug Store; Sinnett & Wright Drug Store; Ingram Restaurant; Farmers' Restaurant; Arlington Hotel; loss $100,000.

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Md., Hagerstown—Aerie No. 694, F. O. O. E., M. McCrory, Sec., 143 East Ave., erect $100,000 lodge bldg.; brick, 3 stories; C. Kountz, Archt., Young Bldg.

Miss., Columbus—Young Men's Christian Assn., Frank P. Phillips, Chmn., Bldg. Comm., have plans ready latter part Jan. for $75,000 bldg., N. Sixth St. and Second Ave.; rein. conc., struct. steel, tile, brick, stone trim, 2 stories, built-up comp. roof, iron work, fireproof; W. G. Clarkson & Co., Archts., First Natl. Bk. Bldg., Fort Worth, Tex. 11-21

Mo., Branson—Ancient Free and Accepted Masons may erect additional story over city hall for lodge quarters.

N. C., Gastonia—Young Men's Christian Assn. may erect building.

N. C., Winston-Salem — Young Men's Christian Assn., Colored, Geo. W. Fisher, member, considers erecting building.

Okla., Oklahoma City — Young Women's Christian Assn., Mrs. Leslie Gray, Gen. Sec., advises preliminary plans indicate tower type bldg., probably 9 to 12 stories, accommodate 200 permanent and 50 transient guests; probable cost $400,000 to $500,000, exclusive of furnishings and equipment; Hawk & Parr, Archts., First Natl. Bk. Bldg. 12-19

Tenn., Knoxville—Sycamore Camp No. 3, Woodmen of the World, having revised plans drawn by R. F. Graf & Son, Archts., Journal Bldg., and Clem H. Meyer, Asso, Archt., Deaderick Bldg., for $60,000 to $100,000 lodge and business bldg.; brick, rein. conc. floor slabs, 4 stories and basement, 100x57 ft., conc. and hardwood floors, elevator. 10-24

Tex., Cleburne—Ancient Free and Accepted Masons have low bid at $53,900 from West & Womack for temple; W. G. Clarkson & Co., Archts., First Natl. Bk. Bldg., both Fort Worth. 12-12

Bank and Office

Ark., Fordyce—P. G. Matlock erect brick and conc. office bldg.; 1 story, 28x50 ft., comp. roof, metal ceiling, fireproof vault; receiving bids.

D. C., Washington—Pan American Union has $200,000 appropriation from Carnegie Corporation of New York toward $1,000,000 office bldg. and will give additional $300,000 provided structure is started before Oct. 30; plans to be drawn at once; Paul P. Cret and Albert Kelsey, Archts., both Otis Bldg., Philadelphia, Pa. 12-27-28

D. C., Washington — National Education Assn., 1201 Sixteenth St., H. A. Allen, Business Mgr., opens bids Jan. 10 (date subject to variation) for $400,000 office bldg., M and 16th Sts.; brick or steel, 7 stories; Frank Irving Cooper Corp., Archts., 172 Tremont St., Boston, Mass. 12-5

Ga., Atlanta—Healey Real Estate & Improvement Co., Milton, H. Lieberman, Sec., Healey Bldg., started razing structure on site of proposed $1,000,000 office bldg.; new structure probably start in about 40 days; plans about ready; 16 stories, rein. conc. and struct. steel frame, brick and tile, stone trim, 16 stories, basement and sub-basement; site 87.9x100 ft.; 60x40-ft. open air court in rear; 4 passenger elevators; Pringle & Smith, Archts., Norris Bldg.; Robt. G. Lose, Forsyth Bldg., and W. C. Spiker & Co., McGlawn-Bowen Bldg., Struct. Engrs. 11-28

La., Baton Rouge—Citizens Bank & Trust Co., 1628 Main St., Chas. M. Downs, Pres., plans bldg., 16th and Main Sts.

Md., Rockville—Farmers Banking & Trust Co. purchased site for $100,000 building. 12-27-28

Mo., Kansas City—Midland Life Insurance Co., Armour Blvd. & Main St., having plans drawn by Hoit, Price & Barnes, Archts., Telephone Bldg., for 4-story office bldg., Armour Blvd. and Main St.

Tenn., Knoxville—Fidelity-Bankers Trust Co. will remodel 3 upper floors of bldg.; $50,000; Baumann & Baumann, Archts., 813½ Market St.

Tex., Dallas—Dallas Power & Light Co., C. W. Davis, Vice Pres.-Gen. Mgr., start about Feb. 1 to raze structure on site of proposed $1,250,000 office bldg., Browder and Jackson Sts.; 18 stories and basement, brick, rein. conc., 100x100 ft., conc. foundation; Lang & Witchell, Archts., American Natl. Bk. Bldg. 11-14

Tex., Fort Worth—R. O. Dulaney, Petroleum Bldg., and associates; $1,000,000 office bldg., Fifth and Main Sts.; Harry B. Friedman, Contr., First Natl. Bk. Bldg., receiving sub-bids for granite, terra cotta, cast stone, struct. iron, misc. iron, etc.; W. G. Clarkson & Co., Archts., First Natl. Bk Bldg. 8-15

Tex., Houston — Jos. W. Northrop, Jr., Archt., Kirby Bldg., drawing plans for $50,000 office building.

Tex., McCamey—Security State Bank, L. C. Eastland, Pres., has low bid at $19,700 from Allen F. Marshall Construction Co., San Angelo, for bank bldg.; Roy K. Hamberlin, Archt., Builders Exch. Bldg., San Antonio. 12-19

Churches

D. C.; Takoma Park, Washington—Takoma Park Christian Church, M. Elmore Turner, member, 7915 Fifth Ave., N. W., Washington, erect $125,000 bldg., Chicago and New York Aves.; brick, 1 story.

Fla., West Palm Beach—Memorial Presbyterian Church, Rev. E. A. Lindsey, Pastor, 420 Sunset Rd., T. I. McIntosh, Chmn., Bldg. Comm., plans bldg, S. Olive St. and Chicago Ave., after plans by Treanor & Fatio, Archts., Phipps Plaza; Romanesque type, nave seat 400, bell tower, timber ceilings in nave; probably hold up financial campaign for a time.

Ga., Atlanta—Hebrew Benevolent Congregation, Harold Hirsch, member, Bldg. Comm., Hurt Bldg., receives bids until Jan. 16 for $450,000 synagogue, Peachtree and Spring Sts.; fireproof, rein. conc., struct. steel, cinder block, stone tile, Indiana limestone trim, marble, tile and terrazzo interior trim, tar and gravel roof, cork floor, steel stairs, copper dome; assembly room seat 450; carved wood Ark not in gen. contract; Hentz, Adler & Shutze, Archts., Candler Bldg.; Robt. S. Fiske, Consltt. Engr., Healey Bldg.; following contractors estimating: Brazzell & Miller, Norris Bldg.; Geo. A. Clayton Co., Bona Allen Bldg.; A. J. Krebs Co., Walton Bldg.; Grahn Construction Co., Red Rock Bldg.; Shelverton Construction Co., Bona Allen Bldg.; Griffin Construction Co., 32 Spring St., N. W.; Southern Ferro Concrete Co., E. Ellis St.; Collins, Holdbrook & Collins; Norwood Grffin Co., all Atlanta; John M. Geary Co., Asheville, N. C. 1-2

Ga., Atlanta—Ponce de Leon Ave. Baptist Church, Geo. M. Brown, Chmn., Bldg. Comm., Georgia Savings Bk., have plans ready about Jan. 15 for $275,000 bldg., Peachtree Rd. and Wesley Ave.; rein. conc., brick and tile, stone trim, auditorium 1 story and balcony, seat 1500; Sunday school 5 stories and basement, accommodate 1000; 80x170 ft., comp. and slate roof, steam heat; Geo. Harwell Bond, Archt., Candler Bldg.; Robt. S. Newcomb, Mech. Engr., Walton Bldg.; Robt. G. Lose, Struct. Engr., Forsyth Bldg. 12-5

Ga., Brunswick—First Methodist Church erect 2-story and basement Sunday school; brick, stone trim, conc. footings, slate and comp. roof; Walter P. Marshall, Archt., Savannah Bk. & Tr. Bldg., Savannah.

Ga., Cairo—Presbyterian Church, Judge R. C. Bell, Chmn., Bldg. Comm., erect brick bldg.; conc. footings, struct. steel, comp. roof; T. Firth Lockwood, Archt., Murrah Bldg., Columbus.

La., Lake Charles—Woodbury Congregational Church, Colored, Rev. Walter F. Thomas, Pastor, Belden St. and Boulevard, plans $10,000 community center-workshop bldg. during 1930.

La., Ville Platte—Roman Catholic Church, J. J. Savey, member, considers erecting $100,000 building.

Md., Annapolis—Cyril H. Hebrank, Archt., Central Savings Bk. Bldg., Baltimore, drawing plans for $20,000 chapel; painted brick, 1 story and basement, slate roof; plans ready by middle of February.

Md., Chevy Chase, Branch Washington, D. C.—Chevy Chase Baptist Church, Rev. E. O. Clark, Pastor, 217 Raymond St., considers erecting $150,000 auditorium and $25,000

Sunday school; stone, 1 story; Smith & Edwards, Archts., 1707 I St., N. W., Washington.

Md., Colgate—St. Peter's E. L. Church, Rev. L. Schumucker, Pastor, Eastern Ave., Essex, selected John Freund, 1307 St. Paul St., Baltiomre, as architect for $50,000 bldg.; stone, 1 story, seat 400. 10-31

Md., Glyndon — Methodist Episcopal Church, Rev. D. W. Justice, Pastor, 116 Dover Rd., erect $75,000 church and parsonage to replace burned structure; stone, 1 story.

Mo., North Kansas City, Kansas City—First Presbyterian Church, Rev. Mr. Swallow, Pastor, erect 1-story brick bldg.; J. C. Lawrence, Archt., Commercial Bldg., Kansas City.

Mo., St. Louis — St. Peters Evangelical Church, Rev. A. C. Rasche, Pastor, 4017 St. Louis Ave., remodel and enlarge bldg.; 1 and 2 stories, brick; $25,000; T. P. Barnett Co., Archt., Arcade Bldg.

Mo., St. Louis—Cabanne Methodist Church, Goodfellow and Bartner Aves., G. A. Hanks, member, Bldg. Comm., plans Sunday school and recreation building.

Mo., St. Louis—Evangelical Church of the Redeemer receives bids until Jan. 14 for $85,000 superstructure; brick and stone, 1 story, about 117x75 ft.; Preston J. Bradshaw, Archt., 718 Locust St. 11-14

Mo., St. Louis—Third Baptist Church, E. S. Pillsbury, Chmn., Bldg. Comm., completed preliminary plans for $700,000 church to replace burned structure, Grand Blvd. and Washington Ave.; Gothic type, 40x60-ft. tower 225 ft. high, fireproof, Bedford limestone walls, leaded glass, auditorium seat about 2500, 5-story Sunday school and social unit; L. Baylor Pendleton, Archt., 119 N. Seventh St. 11-15-28

Okla., Oklahoma City—First Christian Church erect $50,000 auditorium addition; 65x75 ft.; Walter T. Vahlberg, Archt., Braniff Bldg., preliminary plans.

S. C., Clinton—First Presbyterian Church, Rev. B. J. Wood, Pastor, plans to rebuild structure lately noted burned. 1-2

Tex., Alice—Methodist Church, I. A. Patton, Chmn., Bldg. Comm., plans $30,000 building.

Tex., Amarillo — Church of Christ, Rev. Robt. C. Jones, Pastor, start work in few days on $60,000 Gothic type bldg., 1401 Monroe St.; 3 stories and basement, steel and stone, fireproof basement, semi-fireproof above; auditorium seat 900, balcony 300.

Tex., Arlington—First Baptist Church let contract to E. A. Randle & Son, 1921 Greenville St., Dallas, for bldg. to replace burned structure.

Tex., Galveston — First Baptist Church probably enlarge bldg. during 1930.

Tex., Luling—Baptist Church plans $50,000 bldg.; Kramer & Kerr, Archts., Burt Bldg., Dallas.

Tex., San Antonio—Los Angeles Heights Methodist Church, 507 Lee Hall St., Rev. J. Leonard Rea, Pastor, erect $30,000 to $35,000 bldg., Catalina and Sacramento Sts.; work start latter part of 1930.

Tex., Yorktown—Lutheran Church, F. C. Adix, Pres., Church Council, plans building.

City and County

Fla., Kendall—Dade County Bd. of Commrs., High Peters, Chmn., Miami, receives bids until Jan. 14 for material for $35,000 permanent prison stockade near Kendall, including 84 steel sash, 18 tons rein. steel, 35,000 ft. short leaf pine lumber, etc.; stockade accommodate 125, laundry in basement, recreational facilities. 11-28

La., Abbeville — Vermillion Parish Police Jury, R. L. Montague, Pres., considers altering courthouse; $100,000.

Md., Hagerstown—First Fire House Co., 37 S. Potomac St., remodel and enlarge fire station, 37 S. Potomac St.; C. E. Kountz, Archt., Young Bldg.

Miss., Laurel—City Bd. of Commrs. considers erecting stadium; bonds available.

Mo., Columbia—Library Bd., E. A. Logan, member, considers erecting library.

N. C., Gastonia—Library Bd., H. Rutter, City Mgr., considers erecting library.

N. C., Marion—Chamber of Commerce interested in erection of $75,000 city hall.

Okla., Shawnee—City, Dr. T. C. Saunders, interested, considers erecting $150,000 community bldg.; brick and conc., 2 stories; swimming pool, gymnasium; A. C. Davis & Sons, Archts.

S. C., Sumter — Sumter County remodel courthouse; $16,000; contract let. Address County Bd. of Commrs.

Texas—J. M. Glover, Archt., Bankers Mtg. Bldg., Houston, reported, has completed plans for 2 courthouses; total $500,000.

Tex., Denton — City Comsn. rejected bids for 2 fire stations; $20,000; W. N. Harris to draw new plans. 1-2

Tex., Hemphill — Sabine County Bd. of Commrs. receive bids until Jan. 24 (extended date) to remodel 3-story brick courthouse and jail; bids on general work and subcontracts; Theo. S. Maffitt, Archt., Palestine. 12-12

Tex., San Antonio — City has completed plans by Harvey P. Smith, Natl. Bank of Comm. Bldg., for restoration of old Spanish Governor's Palace for museum. 6-8

Dwellings

D. C., Washington—Dr. O. C. Foote, 3600 Livingston St., N. W., erect $20,000 residence; brick, 2 stories; A. F. Thelander, Archt., Rees Bldg., Clarendon, Va.

D. C., Washington—Mrs. G. Stewart, Centaur Farms, Easton, Md., erect $100,000 residence and garage; stone and brick, 4 stories; G. Oakley Totten, Jr., Archt., 808 17th St., N. W., Washington.

D. C., Washington—W. Montgomery, care Porter & Lockie, Archts., 1800 E St., N. W., erect $78,000 residence and garage; brick, 2½ stories.

D. C., Washington—P. H. Willis, 927 Fifteenth St., N. W., considers erecting 5 dwellings and garages, Reno Rd., N. W.; brick, 2½ stories; $75,000; G. T. Santmyers, Archt., 1418 I St., N. W.

D. C., Washington — Wyeth & Sullivan, Archts., drawing plans for $350,000 dwelling; brick, 3 stories; also drawing plans for 2½-story brick dwelling.

D. C., Washington—Malcolm S. McConihe, 10 Jackson Place, has permit for $45,000 residence, 10 Thomas Circle, N. W.; brick, 4 stories.

D. C., Washington — Frank D. Phillips, 3600 Morrison St., N. W., has permit for 3 brick, tile and frame dwellings, 5357-61 Broad Branch Rd., N. W.; 2 stories; $20,000.

D. C., Washington—Dr. Daniel B. Moffett, 3900 Tunlaw Rd., N. W., has permit for $10,000 2-story brick addition to residence.

Fla., Bonifay—Prof. Ira C. Bush and J. W. Bush plan 3 dwellings in addition to 1 under construction.

Fla., Coconut Grove, Miami—F. D. Spencer erect residence and garage, The Moorings; W. C. DeGarmo, Archt.; Thos. A. Bruno, Asso. Archt.; bids in.

Fla., Homosassa—Wm. Locke, Archt., St. Petersburg, is drawing preliminary plans for $40,000 dwelling.

Ga., Atlanta—L. E. Rogers, Candler Bldg., erect $35,000 residence, Brookhaven Drive, N. E.; 2 stories and basement, brick, stone trim, hardwood and tile floors, slate and comp. roof, steam heat; Burge & Stevens, Archts., 101 Marietta Bldg.; plans completed.

Ga., Atlanta—Dr. R. A. Batholomew, 104 Ponce de Leon Ave., erect $50,000 residence, Lullwater Rd.; brick veneer, conc. footings, 2 stories and basement, 15 rooms, 5 tile baths, conc. footings, hardwood floors, slate and comp. roof, steam heat; Edouard Clerk, Archt., Henry Grady Bldg.

Ga., Douglas — Miss Ava Peterson erect tile and stucco residence; 1 story, 2 baths, 8 rooms, hardwood and tile floors, asbestos shingle roof; Walter P. Marshall, Archt., Savannah Bk. & Tr. Bldg., Savannah.

Ga., Cumming—Baptist Church, Rev. W. R. Callaway, Pastor, erect parsonage.

Ky., Lexington—Thos. A. Combs, Pres., Combs Lumber Co., Inc., 439 E. Main St., probably rebuild residence lately noted burned at $80,000 loss; Combs Lumber Co. probably be contractor.

La., Shreveport—Geo. D. Wray, 320 Market St., has low bid for $50,000 to $60,000 residence from K. C. Wilson; Edw. F. Neild, Archt., City Bk. Bldg. 1-2

Md., Annapolis—A. E. Graffin, Vice-Pres., J. G. Valiant Co., 324 N. Charles St., Baltimore, erect $15,000 Summer residence; frame, 1½ stories; Porter & Lockie, Archts., Architects Bldg., Washington, D. C.

Md., Baltimore—Guy Edward Gaston, Archt., 748 Grantley St., drawing plans for $18,000 dwelling, Hunting Ridge; brick, 2½ stories.

Md., Baltimore—E. A. Cullings, 692 Gladstone Ave., erect $60,000 residence, Belvedere Ave. near Charles St.; brick, 2½ stories; Palmer & Lambdin, Archts., 513 N. Charles St.; receiving bids.

Md., Baltimore — Mrs. Amelia P. Dutton, 1314 Eutaw Place, plans residence, Winding Way and Waycrest Rd., Poplar Hills.

Md., Hagerstown — C. Clifton Anderson, Negley Bldg., erect $40,000 residence, Forrest Drive, brick, 2½ stories; C. E. Kountz, Archt., Young Bldg.

Miss., Jackson—J. M. Holman, Pine St., erect $30,000 residence; English type, brick, 2 stories, 50x107 ft., tile roof, tile baths, hardwood floors, built-in features; J. Frazer Smith, Archt., Goodwyn Inst. Bldg., Memphis, Tenn.

Miss., Meridian—P. J. Krouse, Archt., M. & W. Bldg., soon have plans ready for bids for brick dwelling, 24th Ave. near 18th St.; $12,000, 2 stories and basement.

Mo., Jefferson City — Percy Steppelman, care Steppelman Electric Co., erect Norman type residence, Wagner Addition; 18 rooms, 3 baths; Leroy Parrish, Archt.-Constr. Supvr.; work in Spring.

Mo., Normandy — F. A. Lammert, 5348 Wells Ave., erect 1½-story brick residence; E. Paulus, Archt., 4955 Northland St., both St. Louis; plans drawn.

Mo., St. Louis—E. T. Standard, 408 Pine St., erect 2-story brick residence; Maritz & Young, Inc., Archts., Chemical Bldg.

Mo., St. Louis — A. A. Meyer, 1731 S. Broadway, erect $25,000 residence, Clayton Rd. near McKnight Rd.; brick, 2 stories; Trueblood & Graf, Archts., Chemical Bldg.; plans ready about Jan. 10.

Mo., St. Louis—Wallace Hendron Smith erect brick residence, Warson Rd. near Ladue Rd.; 2 stories and basement, hardwood floors, tile roof, oil burner; Smith & Gauger, Archts., all 514 Louderman Bldg.

N. C., Greensboro—Lewis M. Kearns, Sunset Hills, erect brick veneer residence; 2 stories and basement, hardwood floors, comp. roof, steam heat; Jos. J. Sawyer, Archt., Jefferson Standard Bldg.; plans about ready.

Okla., Oklahoma City—Allen Orcutt, 900 W. Reno St., erect $15,000 residence; 2 stories and basement; Walter T. Vahlberg, Archt., Braniff Bldg.

S. C., Columbia—Melrose Heights Development Co. erect 4 brick veneer and brick, tile and stone dwellings, Fairview Drive; 7 to 9 rooms; $20,000.

S. C., Georgetown — Bernard M. Baruch erect fireproof Colonial residence to replace Hobcaw Barony, Waccamaw Peninsula noted burned; brick, steel and cement.

Tenn., Memphis — H. B. Potts considers erecting brick residence, Perkins Ave. near Walnut Grove Rd., in Spring; 1 and 2 stories, hardwood floors, comp. or tile roof, tile baths; Geo. Mahan, Jr., Archt., Manhattan Bk. Bldg.

Tenn., Murfreesboro — Interstate Airline, Inc., W. G. Schaeffler, Vice-Pres., considers erecting 6 dwellings at Kentucky Harbor.

Tex., Brownsville—R. W. Rockwell erect $17,500 Spanish type residence; hollow tile and stucco, 1 story, tile floors, tile roof, 10 rooms; R. Newell Waters, Archt., Weslaco.

Tex., El Paso — L. E. Saunders, Pres.-Mgr., Rio Grande Lumber & Fuel Co., 1731 Texas St., erect $25,000 residence, Gold and Silver Sts., Castle Heights; Spanish type, brick and stucco, 9 rooms.

Tex., Houston—Leo Gober, 2501 Isabella St., erect 2 frame dwellings and garage, 2023-25 E. Alabama St., Holman addition; 5 rooms and bath; $10,500.

Tex., Houston—B. A. Killson, Cotton Exchange Bldg., erect residence, Kirby Drive, River Oaks; Chas. W. Oliver, Archt.

Tex., Houston—A. C. Sokelle, 2522 Waugh Drive, erect $60,000 residence, N. Colquitt and Ennis Sts.; J. M. Glover, Archt., Bankers Mtge. Bldg.

Tex., Houston—John Freeman erect $40,000 residence, Shadowlawn; J. M. Glover, Archt., Bankers Mtg. Bldg.

Tex., Houston — Jos. W. Northrop, Jr., Archt., Kirby Bldg., drawing plans for $15,000 duplex.

Tex., Houston—H. D. Payne, Archt., Kirby Bldg., drawing plans for two $20,000 dwellings.

Tex., San Antonio—Mrs. E. E. Murphy, 207 S. Presa St., erect stone residence and garage near Mission Conception; 1 story, 7 rooms, tile bath; Beverly W. Spillman & Beverley W. Spillman, Jr., Archts.-Engrs., Alamo Bank Bldg.

Va., Richmond—R. L. Figg, Mutual Bldg., erect frame dwellings, 2511-15 Seminary Ave.; $16,500.

Government and State

Ala., Camp McClellan, Anniston — Additional contractors estimating on 1 field officer's quarters and 17 company officers' quarters, Fort McClellan, bids Jan. 13 by Constructing Quartermaster: Decatur Cornice & Roofing Co., Albany Station, Decatur, Ala.; Klepsig Plumbing & Heating Co., 20 W. Tenth St., Anniston; Fanning & Sweeney, Greensboro, N. C.; W. A. Crary & Son, 1226 Sumter St., Columbia, S. C.; Cole Manufacturing Co., Box 2657, Memphis, Tenn.; W. F. Martens, 8 Eastland Ave., Rochester, N. Y.; Birmingham Sash & Door Co., Ninth Ave. and 28th St.; Paul Bros., 2337 20th Ave., South, both Birmingham, Ala.; John T. Mithel Marble & Tile Works, Charleston, S. C. 1-2

Ark., Hot Springs National Park—Arkansas National Guard, E. L. Compere, Adjt. Gen., Little Rock, plans $30,000 armory if site is donated.

D. C., Washington—Following contractors estimating on exhibition bldg. for reptiles, National Zoological Park, bids Jan. 14 by District Commrs., Dist. Bldg.: Bahen & Wright, 916 Rhode Island Ave.; Skinker & Garrett, 1719 I St.; Geo. E. Wyne, California & Florida Ave.; Arthur L. Smith, 2nd & T. St., N. E.; English Construction Co., 1311 H St., N. W.; Charles H. Tompkins Co., 1608 K St., N. W.; Lee T. Turner, 1366 Perry Place, N. W.; W. E. Mooney, 2539 Pennsylvania Ave.; Cranford Co., 5056 & St., N. W.; T. T. Taylor Co., District Natl. Bk. Bldg.; Moistice Construction Co.; M. A. Long Co., Albee Bldg.; H. Herfurth, Jr., all Washington; North-Eastern Construction Co., 6 W. Madison St.; Henry L. Maass & Sons, 1119 Ensor St., both Baltimore, Md.; Morrison Bros., Bethesda, Md.; Pyne Construction Co., 230 S. 20th St., Philadelphia, Pa.; Columbia Construction Co., 2 Lafayette St., New York; L. McCloyd Co., Norfolk, Va. 12-19

D. C., Washington — Office of Public Buildings and Public Parks of National Capitol, Lt.-Col. U. S. Grant, 3rd, Director, has low bid at $74,880 from Chas. H. Tompkins Co., 1608 K St., N. W., to reconstruct interior of burned wing of White House. 1-2

La., Alexandria—Government expend $10,000 to remodel bldgs., Camp Beauregard. Address Mayor V. V. Lamkin.

La., Monroe—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., may call for bids about Jan. 15 on $40,000 annex to post office; 1100 sq. ft. additional floor space, 700 lock boxes. 7-25

Md., Baltimore—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D., C., has low bit at $2,599,000 from N. P. Severin Co., 222 W. Adams St., Chicago, Ill., for 6-story, basement and sub-basement post office; low bid on elevators, Otis Elevator Co., Washington, at $178,451. 12-26

Mo., Centralia—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., reported, erect $100,000 post office.

N. C., Fort Bragg—Constructing Quartermaster will advertise for bids for 15 sets of non-commissioned officers' quarters; $102,000.

Tenn., Memphis—Following contractors estimating on $1,500,000 extension and remodeling of custom, courthouse and post office bldg., bids Jan. 30 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Jones Engineering & Construction Co., Inc., 171 W. Eggleston Ave., Elmhurst, Ill.; DeVault & Deitrick, Inc., Massillon Rd., Canton, O.; National Construction Co., Glenn Bldg., Atlanta, Ga.; English Construction Co., 1311 H St., N. W.; Smythe & Co., 1416 F. St., N. W., both Washington; N. P. Severin Co., 222 W. Adams St.; Ellington-Miller Co., 25 E. Jackson St., both Chicago, Ill.; Algernon Blair; A. C. Samford, 301 Washington Ave., both Montgomery, Ala.; Murch Bros. Construction Co., Rwy. Exch. Bldg., St. Louis, Mo.; W. D. Lovell, 1415 Eight St., S. E., Minneapolis, Minn.; Consolidated Contractors; H. A. McGuire & Co., Dermon Bldg.; S. & W. Construction Co., Shrine Bldg., all Memphis; Chas. Weitz' Sons, 713 Mulberry St., Des Moines, Iowa. 12-26

Tex., El Paso—Constructing Quartermaster, Fort Bliss, receives bids until Jan. 29 for 16 sets of non-commissioned officers' quartres and utilities; bungalow type, brick and tile; $107,000.

Tex., Randolph Field, Schertz—Constructing Quartermaster, Capt. A. W. Parker, has been authorized to employ architects in San Antonio and vicinity to draw plans and specifications for bldgs. for $14,000,000 flying school, Seguin Rd.; work includes hospital and school of aviation medicine, 6 field officers' quarters, 72 company officers' quarters, 90 bachelor officers' quarters, cadet barracks, post exchange, academy bldg. and administration bldg., total about $3,000,000; also erect hollow tile and stucco, fire house; soon call bids. 11-21

Va., Richmond—Henry P. Beck and J. T. Nuckols, 1102 E. Main St., erect $17,500 brick post office and store bldg., 19-21 S. Belmont Ave.

Hospitals, Sanitariums, Etc.

Ark., Alexander—State Construction Comn., Jos. M. Hill, Chmn., Fort Smith, erect $40,000 sanatorium for negroes during 1930.

Ala., Anniston—City purchased Garner Memorial Hospital; renovating; work under supervision of Bd. of Trustees, J. D. Garner, Pres.; city lately noted to erect bldg. 12-26

Ark., Little Rock—City Bd. of Public Affairs receives bids until Jan. 20 for 3-story annex to General Hospital; separate bids for wiring, heating and plumbing, $50,000; isolation and negro wards, laundry; Thompson, Sanders & Ginocchio, Archts., Hall Bldg. 10-31

Ark., Morrilton—St. Anthony's Hospital, Rev. F. A. Schwab, member, Bldg. Comm., has preliminary plans for $40,000 brick and conc. hospital; 1 and 2 stories; financing.

D. C., Washington—Chief, Bureau of Yards and Docks, Navy Dept., receiving bids, date of opening not determined, for kitchen bldg. and covered and uncovered walks, Naval Hospital; work includes plain and rein. conc., wood framing, doors, windows and finish, prepared roofing, sheet metal work, lath, steam heat, elect. lighting system.

D. C., Washington—U. S. Veterans' Bureau, care Constructing Quartermaster, Army Medical Center, soon call for new bids for neuropsychiatric ward, Walter Reed General Hospital. 11-14

Ky., Lexington — Additional contractors estimating on $1,500,000 U. S. Veterans Hospital, bids Jan. 14 by U. S. Veterans Bureau, Alrington Bldg., Washington, D. C.: General constr., Worsham Bros., Empire Bldg., Knoxville, Tenn.; Southern Ferro Concrete Co., 70 Ellis St., N. E., Atlanta, Ga.; Gates Bros., Ashland, Ky.; J. F. Hardymon Co., Inc., 343 E. Second St., Maysville, Ky.: plumbing and heating, Robt. L. Cranfill, 113 Walton Ave.; J. J. Fitzgerald, Main & Spring Sts., both Lexington; O'Pry Heating & Plumbing Co., 163 Cotton Ave., Macon, Ga.; F. A. Clegg & Co., 110 W. First St., Louisville, Ky.; John Douglas Co., Union Trust Bldg.; Nash Engineering Co., Barr Bldg., both Washington; material, Indiana Terra Cotta Co., Indianapolis, Ind.; Concrete Engineering Co., 1213 Plaza Bldg., Pittsburgh, Pa.; John G. Pool Co., 494 Ludlow Arcade, Dayton, O.; Thrower Marble & Tile Co., Charlotte, N. C.; Henry Weis Manufacturing Co., Elkhart, Ind.; Atlantic Terra Cotta Co., 25 W. 44th St., New York; Johnson City Foundry & Machine Co., Johnson City, Tenn.; T. B. Dornin-Adams Co., Inc., 324 Twelfth St., Lynchburg, Va.; F. T. Justice & Co., 4th & Jefferson St., Lexington; International Steel & Iron Co., Evansville, Ind.; Venice Terrazzo Mosaic & Tile Co., 1010 S. Main St., Rockford, Ill.; Chas. Hegewald Co., New Albany, Ind.; Crane Co. (plumbing), 500 Broadway, Macon; Morrison-Skinner Co. (screens), Wakefield, Mass.; elect. work, Moore-Young Electric Co., 106 Rose St., Lexington; Tri-State Electric Co., 324 N. Willett St., Memphis, Tenn.; Olive-Muench Electric Co., 420 E. Market St., Louisville; Kelso-Wagner Co., Dayton, O.; Rosenblatt & Hunt, Charleston Natl. Bk. Bldg., Charleston, W. Va.; refrigerators, American Carbonic Machinery Co., Wisconsin Rapids, Wis.; C. P. Wood Co., 227 Race St., Cincinnati, O.; Chatard & Norris, 218 Water St., Baltimore, Md.; F. W. Owens (brick), 119 N. Fifth St., Louisville; W. A. Brand (plaster), Staunton, Va.; other firms estimating: F. W. Maury & Co., 128 E. Main St.; Theobald-Janson Electric Co., 115 S. Sixth St., both Louisville; Hendricks & Shouse, 446 E. Main St., Lexington; Mechanical Engineering & Construction Co., Mills Bldg., Washington; W. D. Tibbetts Co., Marion, Ind.; Graybar Electric Co., Cincinnati. 12-26

La., New Orleans—New Orleans Tuberculosis Assn. receives bids until Jan. 15 for tuberculosis hospital, Gentilly Terrace; $80,000, frame, 1 story, 341x110 ft., with courtyard in center, 4 wards of 50 beds each, 2 dining rooms; M. B. DePass, Archt., 926 Pauline St.; following contractors estimating: R. P. Farnsworth & Co., Maritime Bldg.; R. H. Ketteringham, 1128 Jena St.; J. V. & R. T. Burkes, Inc., Amer. Bank Bldg.; L. J. Woodworth, Hibernia Bk. Bldg.; J. A. Petty & Sons, Inc., Godchaux Bldg.; Reimann Construction Co., Maritime Bldg.; Geary-Oakes Co., Q. & C. Bldg.; Gervais F. Favrot, Balter Bldg.; J. A. Haase, Jr., 916 Union St.; Chas. Gibert Construction Co., Canal Bk. Bldg.; Lionel F. Favrot, Louisiana Bldg.; Nick Ascani, 5878 Canal Blvd.; Alvin M. Fromherz, O. & C. Bldg.; L. Delarosa, dido St.; Fred Hoffman, 1940 Elysian Fields; 616 Poydras St.; A. P. Boh & Co., 837 Per-Richard McCarthy, Maritime Bldg. 12-5

Mo., St. Louis—Board of Public Service, E. R. Kinsey, Pres., will soon have plans for $600,000 nurses' home, City Hospital, started by Albert Osburg, Archt., City Hall; L. R. Bowen, Engr., care Dept. of Buildings and Bridges. 12-5

N. C., Asheboro—City voted $25,000 hospital bonds; similar amount to be donated by Duke Foundation. 12-5

N. C., Sanford—Lee County Bd. of Commrs. may issue $62,500 bonds to purchase site and erect hospital.

Okla., Alva—City soon call for bids for brick and conc. hospital; $50,000, 2 stories, struct. and rein. iron, comp. roof, steam heat; Clay Riggins, Archt., 2820 W. 21st St., Oklahoma City. 8-15

Tex., Sanatorium—State Bd. of Control, R. B. Walthall, Chmn., Austin, receives bids until Jan. 15 for children's hospital and dormitory bldgs., State Tuberculosis Sanatorium; separate bids for plumbing, heating and elect. work; plans from Phelps & DeWees, Archts., Gunter Bldg., San Antonio. 1-2

Va., Lynchburg—Community Hospital Assn., Dr. Kyle Pettis, 914 Fifth Ave., interested, plans to purchase bldg., Floyd St. near 15th St.; equip for hospital for negroes.

Va., Richmond—Sheltering Arms Hospital, Miss Frances B. Scott, Pres., plans to start work in late Spring on addition; repair nurses' home; Baskerville & Lambert, Archts., Travelers Bldg.

Hotels and Apartments

D. C., Washington—W. Harris, 1741 Rhode Island Ave., N. W., preparing plans for $175,000, 3-story, brick apartment.

D. C., Washington — E. M. Willis, Jr., Tower Bldg., reported, erect $600,000, 5-story, brick apartment; G. T. Santmyers, Archt., 1418 Eye St., N. W.

Fla., Pass-a-Grille—J. B. Green Realty Co., 651 Central Ave., St. Petersburg, reported, interested in erecting 3-story, 260x130 ft., hollow tile and stucco co-operative apartment, tile and built-up roof; Hadley & Nordstrom, Archts.-Engrs., 336 Central Ave., St. Petersburg.

Miss., Jackson—Management, Edwards Hotel, receives bids Jan. 15 for improvements to hotel; plans include 100 additional bath rooms with tile floors, converting 3 office floors into hotel rooms, rearranging of plumbing, electric wiring, new elevators and general alterations to hotel; separate bids on mechanical work; Claude H. Lindsely, Archt., Edwards Hotel Bldg. 12-5

N. C., Charlotte—Hotel Charlotte, Julian H. Little, having plans prepared by W. L. Stoddard, Archt., 50 East 41st St., New York, for $150,000, 2-story, rein. conc., brick and tile addition.

S. C., Greenville—H. P. Burbage, Palmetto Bldg., interested in erection of 50-room hotel, Augusta and University Sts., to be known as Hotel Furman; $150,000.

Tenn., Union City—Union City Hotel Co. having preliminary plans prepared by Anker F. Hansen, Shrine Bldg., Memphis, for $120,000, 5-story and basement, brick and rein. conc. hotel; comp. built-up roof, 85 rooms, tile baths, steam heat.

Tex., Brownwood—Hotel Brownwood, Inc., Roy H. Morris, and Wyatt C. Hedrick, First Natl. Bank Bldg., Fort Worth, receives bids Jan. 15 for $375,000, 12-story, brick, stone, steel and rein. conc., fireproof, 216-room hotel, Baker and Fisk Sts.; Wyatt C. Hedrick, Inc., Archt. 12-12

Tex., Houston — Joseph Finger, Archt., Democratic Bldg., completed plans for $100,000 store, filling station and hotel, Franklin and Hamilton Sts.

Tex., Houston — Joseph Finger, Archt., Democratic Bldg., preparing plans for apartment building on Main St.

Miscellaneous

D. C., Washington — National League of American Pen Women, Mrs. C. M. Busch, Pres., Willard Hotel, having preliminary plans prepared by J. M. Donn, 1219 Connecticut Ave., N. W., for $45,000, 1-story, brick building.

Fla., Miami Beach—Tom Huston, 8th St., Columbus, Ga., has permit for $10,000, 24x24

ft., 2-story, rein. conc. bath house, Aroso Way between 83rd and 84th Sts.; Wm. S. Green, Contr., 1107 Fifth St.; V. H. Nellenbogen, Archt., Bastain Bldg.

Ga., Porterdale—Bibb Manufacturing Co., L. R. Brumby, Supt., care Q. R. Nolan, Plant Engr., 221 Buford Place, Macon, temporarily postpored date opening bids on $100,000, 2-story and basement, 154x88-ft., brick, rein. conc., struc. steel and tile gymnasium and auditorium; Indiana limestone trim, built-up roof, hardwood and cement floors, sprinkler system; Shelverton & Oliphant, Archts., Grand Bldg., Macon. 12-26

La., Bossier—E. A. George, Archt., Shreveport, preparing plans for $10,000 clubhouse, on Miden Road in Bossier Parish.

La., New Orleans — Tharp-Sontheimer-Tharp, Inc., 3229 Carondelet St., erect funeral home, S. Claiborne Ave. near Taylor St.; Jones, Roessle & Olschner, Archts., Maison Blanche Bldg.

Md., Baltimore—St. Dominic's R.C. Church, Rev. Father J. B. Manley, in charge, Gibbons Ave. near Harford Road, plans $50,000, 2-story, stone convent.

Mo., Kansas City—Ka-Zan Heights, Inc., Geo. W. Zander, Pres., erect hotel, 50 cabins and provide amusement concessions in connection with 70-acre development at Lake Taneycomo; Stanley E. Kraft, Constr. Engr., both 4004 Bellefontaine.

Mo., Springfield—Fred C. Thieme, 1615 N. Booneville Ave., erect $30,000, 2-story, 40x50 ft. brick funeral home.

Okla., Oklahoma City—H. L. Wallis, 1801 W. 34th St., having plans prepared by Walter T. Vahlberg, Braniff Bldg., for $250,000 Log Cabin Tourist Park to consist of tourist hotel, store buildings, cottages, swimming pool and bridge.

Okla., Tulsa — Smith & Senter, Archts., Philtower Bldg., advise that Security Development Co., L. B. Myers, Sec., Morris Plan Bldg., abandoned plans for English type commercial center, McNulty Ball Park. 9-5

Tex., Austin—Texas Federation of Women's Clubs, Mrs. R. F. Lindsay, Pres., Mount Pleasant, considering erecting building.

Tex., Galveston—F. P. Malloy, 3327 E St., soon ready for bids for funeral home, 31st St. and Broadway.

Tex., Houston—Mount Sinai Orphan Home for Negroes Bd. of Trustees, Rev. L. W. Williams, Pres., erect building in Highland Heights.

Tex., Houston—Peters' Mission, Mrs. C. E. Peters in charge, rebuild home, 6913 Capitol Ave.

Railway Stations, Sheds, Etc.

Tex., Donna—Missouri Pacific Lines, C. S. Kirkpatrick, Ch. Engr., Union Station, Houston, ready for bids early in Jan. for 1-story, hollow tile and stucco, Spanish type passenger station.

Tex., Cleburne—Gulf, Colorado & Santa Fe R. R., F. Merritt, Ch. Engr., Galveston, receive bids Jan. 10 for 2-story and basement, 60x662-ft. storehouse; 1-story, 24x192 ft. and 24x580-ft. warehouses; all rein. conc. and brick; also 86x530-ft platform. 1-2

Schools

Ala., Cooks Springs—Southern Evangelistic School, Dr. T. T. Martin, Pres., Blue Mountain, Miss., plans to establish school on 1500-acre tract donated by Lafayette Cook, Miami, Fla.

Ark., Clarksville—College of the Ozarks, Dr. Wiley Lin Hurie, Pres., plans rebuilding hall recently destroyed by fire; loss $150,000.

Ark., Jonesboro—Agricultural and Mechanical College Bd. of Trustees plans to begin work about Jan. 15 on $32,000, 4-story, 90x50 ft., brick faculty club; hardwood floors, asbestos shingle roof; Harry E. Eldridge, Engr. at College. See Want Section—Building Material and Equipment. 10-24

Ark., Little Rock—State, W. A. Rooksbery, State Commr. of Labor and Statistics, plans $130,000 construction program at Arkansas School for Deaf.

Ark., Magazine — Magazine Consolidated School Bd., Claude H. Kyle, Pres., erect $20,000, 1-story brick veneer and rein. conc., 8-classroom school; comp. roof, conc. and wood floors.

Ark., Morrilton—Consolidated School Dist. No. 88, of Conway County, T. L. Haynes, Co. Supt., plans 1 or 2-story, brick veneer high school.

D. C., Washington—American University, J. C. Letts, Massachusetts and Nebraska Aves., N. W., erect 2-story, stone dormitories; $500,000; Col. P. M. Anderson, Archt., Investment Bldg. 2-14-29

Ga., Atlanta—Fulton County Bd. of Education, Jere Wells, Supt., ready for bids about Feb. 1 for $100,000, 3-story, rein. conc., brick and tile high school on Peachtree Road; Hentz, Adler & Shutze, Archts., Candler Bldg.; also for $65,000, 2-story and basement, brick grammar school at Grove Park; Daniell & Bentell, Archts., Healey Bldg.; both comp. roofs, hardwood and tile floors. 11-14

Ga., Dalton—School Bd. selected Daniell & Beutell, Healey Bldg., Atlanta, to prepare plans for 12-room City Park School, new school for colored school and addition to high schol; brick, comp. roofs, stone trim; plans expected to be ready for bids about Feb. 25; election Jan. 29 on $100,000 bonds. 1-2

Ga., Forsyth—Monroe County School Bd., Dr. T. D. Thurman, Supt., ready for bids about Jan. 20 for $75,000, 2-story and basement, brick high school; comp. roof, stone trim; Wm. J. J. Chase, Archt., 140 Peachtree St., Atlanta.

Ga., Statesboro—Bulloch County Bd. of Education, W. H. Smith, Chmn., receives bids Jan. 15 for $25,000, 1-story and basement school near Statesboro; brick, struc. steel in auditorium, comp. roof; W. W. Simmons, Archt., 2153 Kings Way, Augusta; following contractors estimating: John T. Ragan, Vidalia; C. O. Smith & Co., Hazelhurst; Simons & Calhoun, Tarrytown; McCowan Bros Co., Fitzgerald; Proctor Co., Statesboro.

La., Monroe—Ouachita Parish School Bd., T. O. Brown, Pres., considering erecting additional units at high school.

La., Monroe — City, Arnold Bernstein, Mayor, plans high school in Forsyth Park; $500,000 available.

Md., Cumberland—Alleghany County School Bd., C. L. Kopp, Supt., plans $15,000, 2-story, brick school, Cumberland St.

Md., Frederick—Hood College, Dr. J. H. Apple, Pres., plans $50,000, 2-story, brick chapel; J. B. Hamme, 31 W. Market St., York, Pa., probable Archt.

Md., Lonaconing — Alleghany County School Bd., C. L. Kopp, Supt., Cumberland, plans addition to school; brick.

Md., Mt. Savage—Alleghany County School Bd., C. L. Kopp, Supt., Cumberland, plans brick school.

Miss., Duncan—School Bd. plans $50,000 building to replace high school recently damaged by fire; 2 stories, 10 rooms and auditorium; election soon on bonds.

Miss., Olive Branch—DeSoto County School Bd. Hernando, plans dormitory at DeSoto Agricultural High School to replace burned structure.

Miss., Pheba—Clay County Bd. of Education rebuild boys' dormitory at Agricultural High School.

Miss., Starkville — Agricultural and Mechanical College, M. H. Moore, Sec., has low bid at $13,370 from Virginia Bridge & Iron Co., Birmingham, Ala., and Roanoke, Va., for 1-story, 100x140 ft., steel warehouse; steel roof; plans by T. G. Gladney, Engr. at College. 1-2

Mo., Jefferson City—St. Peter's Parish, Rt. Rev. Joseph Selinger, having plans prepared by Henry P. Hess, Ambassador Bldg., St. Louis, for 2-story and basement, 59x116-ft., brick, rein. conc., fireproof school; steam heat.

Mo., Kansas City—Bd. of Education, E. C. Meservey, Pres., Library Bldg., having plans prepared by C. A. Smith, Finance Bldg., for additions to Frances Willard, H. H. Cook and William Rockhill Nelson schools; also for J. C. Nichols school; all brick. 12-5

Mo., New Madrid—Bd. of Education, Harry Sharp, Pres., erect high and grade school to replace burned structure. 1-2

Mo., Springfield—Southwest Teachers' College, Roy Ellis, Pres., erect stadium; seating capacity 18,000; later erect gymnasium and swimming pool; $100,000; Hyland D. Kelley, Archt., 1025 St. Louis St.

Mo., St. Louis—Bethlehem Evangelical Lutheran Church, Rev. Jos. Frenze, 2144 Salisbury St., erect $150,000, 2-story and basement, 168x70-ft., brick and rein. conc., fireproof school; 8 classrooms, auditorium, gymnasium, 6 bowling alleys, comp. roof, steam heat; Albert Meyer, Archt., Central Natl. Bk. Bldg.

N. C., Burlington—Following is outline of building program to be carried out with proceeds of proposed $195,000 bond election Jan. 21: Primary and grammar school in First Ward to have 10 classrooms and auditorium-gymnasium to seat 500 people; auditorium-gymnasium at Fisher St., Maple Ave. and Broad St. schools to seat 500 each; 6-room school for colored with auditorium to seat 300 to 400; C. C. Howeth, Supt. of Schools. 12-26

N. C., Greensboro—North Carolina College, Dr. J. I. Foust, Pres., remodel administration building; new floors, new plastering, re-arrangement of rooms, new lighting system.

N. C., Lexington—Davidson County School Bd. having tentative plans prepared by Percy Bloxam, Salisbury, for consolidated school; 500 ft. frontage with 300-ft. wings

N. C., Poplar Branch—Currituck County Bd. of Education, Currituck, considering erecting $150,000 high school.

Okla., Elk City—Bd. of Education soon call for bids for $94,000 grade school and gymnasium; 1 and 2 stories, brick, stone and rein. conc., fireproof, built-up roof; Joe I. Davis, Archt., First Natl. Bldg., Oklahoma City.

Okla., Guthrie—City votes Jan. 14 on $70,000 for 2-story and basement, brick, 12-room building to replace Central Grade School; Roy W. Shaw, Archt., Enid.

Okla., Shawnee—Bd. of Education, H. G. Faust, Supt., plans $150,000 school improvements; bond election contemplated.

Okla., Stillwater — Oklahoma Agricultural and Mechanical College, H. G. Burnett, Pres., having preliminary plans for $150,000 athletic stadium.

Okla., Tulsa—Bd. of Education, Cecil L. Henry, Pres., erect shop building adjoining Roosevelt Jr. High School; 1 story, 38x110 ft., brick and tile; Leland I. Shumway, Archt., Alexander Bldg.; B. F. Cook, Consltg. Engr.; bids in.

Tenn., Chattanooga—Mountain City Business College, Frank McKenzie, Sec.-Treas., remodel Mizpah Temple, Oak and Lindsay Sts., and expend $75,000 for improvements; 3 stories, 65x140 ft.; Clarence T. Jones, Archt., James Bldg.

Tenn., Cookeville — Putnam County voted Jan. 4 on $200,000 bonds.

Tenn., Knoxville—Bd. of Education, E. L. Adcock, Bus. Mgr., convert old gymnasium at Knoxville High School into classrooms; $10,000.

Tenn., Nashville—David Lipscomb College Bd. of Directors, A. M. Burton, Pres., Life and Casualty Insurance Co., erect $100,000 dormitory to replace Lindsay Hall, noted burned. 1-2

Tenn., Nashville—Fiske University Bd. of Trustees receives bids Jan. 20 for $200,000, brick, rein. conc., cut stone trim library; terrazzo, mastic and cement floors; Henry C. Hibbs, Archt., American Trust Bldg. 11-28

Tex., Amarillo—School Bd. plans following building program on which $550,000 bonds are to be voted Jan. 14: New schools—West Amarillo, first unit of junior high school to include 16 classrooms, cafeteria and auditorium, $165,000; Forest Hill Terrace, 5 classrooms, $25,000; Bivins addition; addition to present buildings—McKinley, unit to include 12 rooms, cafeteria, auditorium with seating capacity for 400, library, $125,000; Buchanan School, manuel training unit; Pleasant Valley, 6-room unit, $40,000; equipment for additions to Pleasant Valley, McKinley, Buchanan and new school at Forest Hill and junior high in West Amarillo, $50,000; armory either at senior high school, Butler field or other suitable location to be used by R. O. T. C. unit, $25,000. 1-2

Tex., Austin—University of Texas, J. W. Calhoun, Comptroller, receives bids Jan. 20 for $25,000 locker room for Texas Memorial Stadium. 12-12

Tex., Bay City—Bay City Ind. School Dist., R. Baker, Sec., soon ready for bids for $175,000, 1-story, 6-classroom high school; H. D. Payne, Archt., Kirby Bldg., Houston.

Tex., College Station—Agricultural and Mechanical College, care Dept. of Buildings and College Utilities, receives sub-bids until Jan. 14 for 4-story, 35x272 ft., conc., brick and hollow tile, 80-room dormitory; cast stone, terra cotta trim; Will A. Orth, College Station, Supt. of Construction; plans by F. E. Giesecke, College Archt. 12-19

Tex., Eden—Eden Ind. School Dist. voted $65,000 bonds for 1-story, brick, tile and rein. conc., 8-classroom and auditorium school; Peters, Strange & Bradshaw, Archts., Myrick Bldg., Lubbock. 12-19

Tex., Mathis—School Bd. called election on $45,000 bonds to remodel school and erect first unit of high school.

Tex., Mobeetie—Mobeetie Ind. School Dist. plans vote on $40,000 bonds.

Tex., San Antonio—Bd. of Education, Dr. J. A. McIntosh, Pres., soon ready for bids for 6-room and assembly hall addition to Frank Johnson School No. 7; Marvin Eickenroht & Bartlett Cocke, Archts., Maverick Bldg.; Beretta-Stiles Co., Inc., Engr., Natl. Bk. of Commerce Bldg.; also soon call for bids for 4-room and assembly hall addition to Robert B. Green School No. 28; both fireproof; J. Clyde & Percy W. Williams, Archts., Moore Bldg.; W. E. Simpson Co., Consltg. Engr., Milam Bldg. 9-19

Tex., Sweetwater—City votes Jan. 21 on $180,000 bonds for schools; C. R. Simmons, Pres., Bd. of Education.

Va., Richmond—Bd. of Education plans elementary school, Floyd Ave. and Nansemend St.

W. Va., Wheeling—Shadyside Bd. of Education purchased Rodefer site on Lincoln Ave. and plans $170,000 school.

Stores

Ala., Birmingham —* Nathan L. Miller, American Trust Bldg., erect 1-story brick and conc. display room, 11th Ave., N. and 26th St.

Ala., Birmingham—A. C. Blankenship, 312 Tuscan Ave., has permit for 1-story brick building.

Ark., Newark — E. E. Allen and J. G. Edwards rebuild structure on Front St. destroyed by fire; 1 story, 50x100 ft., brick, comp. roof, wood floors.

D. C., Washington—Kass Realty Co., 1116 Vermont Ave., ready for bids for $20,000, 1-story brick store.

D. C., Washington—J. Ferrari, 5600 Connecticut Ave., N. W., ready for bids for $18,000, 2-story brick store and apartment; A. S. J. Atkinson, Archt., 3201 Macomb St., N. W.

Fla., Lake Worth—Marino Romano, Propr., Venetian Art Stone Co., erect $10,000 building, Lake Ave. and K Sts.

Ky., Ashland—O. A. Stump soon let contract for $25,000 store and apartment, Division and Second Sts.

Ky., Louisville—Kelsall Music Co., 632 S. 4th St., erect $15,000, 2-story store, 909 W. Broadway; also remodel building at 632 S. 4th St., to be occupied by Miles Silk Shop, 608 S. 4th St.

La., New Orleans—Jaubert Brothers, 290 Magazine St., leased 4-story brick building, 529 Common St., and remodel for annex to store.

La., New Orleans—Theard & Matthews, Archts., Balter Bldg., preparing plans for 1-story, brick, stone trim commercial building, N. Rampart and Conti Sts.; three 16x45 ft. and four 16x50 ft. stores; marble base, owner builds.

Md., Hyattsville—G. B. Furman, 16 Jackson Place, N. W., Washington, D. C., erect $20,000, 1-story brick store, Rhode Island and Park Aves.

Mo., Joplin—Rolla Stephens erect 2-story building, 615 Joplin St.

Mo., St. Louis—J. Uthoff, 6815 Michigan Ave., erect 2-story, brick store, office and apartment; O. J. Popp, Archt., Arcade Bldg.

N. C., Burlington — Efird's Department Store, Inc., B. B. Brown, Local Mgr., remodel adjoining 3-story building for store.

Okla., Bartlesville—Zofness Brothers, Martin I. Zofness (clothiers), remodel store.

Okla., Hollis—Farmer's Co-operative Union erect 30x110 ft., stucco, 5-store building.

Okla., Oklahoma City—T. S. Hunt, 1808 W. 15th St., plans $20,000, 2-story, brick and tile commercial building.

Tenn., Memphis—Arnold Bros. & Stubbs Furniture Co., 85 N. Second, reconstruct building recently destroyed by fire.

Tenn., Memphis—Brinkley Snowden, 1397 Central Ave., has low bid from Memphis Construction Co., 160 Union Ave., for improvements to store, 145 S. Main St.; Hanker & Cairns, Archts., Court Square Bldg.

Tex., Big Spring—J. & W. Fisher, Inc., has permit for $27,200, 1-story, brick and tile business building.

Tex., Corpus Christi—H. E. Luter ready for bids for 2-story, 70x52-ft., brick, hollow tile, stucco and rein. conc. building; cast stone trim, cement and tile floors, skylights; Hamon & Co., Archts., Natl. Bk. Bldg.

Tex., Dallas—Walgreen Drug Co. expend $12,000 on remodeling and $33,000 on fixtures in 25x90 ft. store space on ground floor of building, Main and Field Sts.

Tex., Dallas—Max W. Barshop erect store, 2550-52 Elm St.

Tex., Dallas—Hunt Dry Goods Co., 804 Garrison St., Fort Smith, Ark., lease Volk Brothers Co.'s quarters, 1208-10 Elm St., and expend $25,000 for improvements.

Tex., El Paso—Nick Abraham, 518 Randolph St., has permit for $18,000 apartment and store, 390 S. Santa Fe St.

Tex., Houston—Henry F. Jonas & Tabor, Archts., Union Natl. Bk. Bldg., announced plans ready for $30,000 warehouse and $40,000 business building.

Tex., Houston—St. Regis Candies, Inc., 511 W. Main St., having plans prepared by Joseph Finger, Democratic Bldg., for $50,000 store.

Tex., Houston—J. M. Glover, Archt., Bankers Mortgage Bldg., prepared plans for $100,000 store and apartment near Civic Center.

Tex., Houston—J. Weingarten, Inc., 1502 Main St., has plans by Joseph Finger, Democratic Bldg., for $75,000 store on Harrisburg Blvd. 12-26

Warehouses

D. C., Washington—N. Holz, care J. Wenig, Archt., 917 Fifteenth St., N. W., erect $20,000, 2-story brick addition to warehouse; bids in.

Mo., Springfield — International Harvester Co. of America, J. F. Wells, 425 Phelps St., erect $75,000 brick warehouse addition.

S. C., Orangeburg—Shuler & Smoak rebuild warehouse noted destroyed by fire.

Tex., Corpus Christi—Alamo Iron Works, Melrose Holmgreen, 130 Santa Clara St., San Antonio, erect 1-story and basement, 65x100-ft. steel frame and galvanized iron clad warehouse; conc. floors; Hardy & Curran, Archts., Nixon Bldg., Corpus Christi; bids in. 1-2

Tex., Fort Worth — Prall-Huff Co., 1010 Monroe St., (soda fountain supplies), erect building, Pecan and E. Seventh Sts.

Tex., Houston—J. M. Glover, Archt., Bankers Mortgage Bldg., completed plans for $100,000 store, sample rooms and warehouse on Preston St.

Tex., Houston—J. W. Northrop, Jr., Archt., Kirby Bldg., prepared plans for $90,000 warehouse.

BUILDING CONTRACTS AWARDED

Association and Fraternal

Okla., Ponca City—American Legion, Dept. of Oklahoma, Milton Phillips, Adjt., Oklahoma City, let contract at $21,049 to Dick Sherbon, Ponca City, for administration bldg., American Legion Home School; stone and conc., 2 stories; J. J. Forsyth, Archt., Exchange Natl. Bk. Bldg., Tulsa. 10-31

W. Va., Huntington—Young Men's Christian Assn. let contract for $140,000 physical dept. unit of $400,000 bldg. to C. W. Hancock & Son, Inc., R. & P. Bldg.; brick, 4 stories, about 400,000 cu. ft., 2 gymnasiums, 87x63 ft. and 60x30 ft.; 60x20-ft. swimming pool; locker rooms, showers; furnishings, equipment, etc., $20,000; Meanor & Handloser, Archts., 1139 Fourth St. 11-21

Bank and Office

D. C., Washington—Washington Mechanics Savings Bank, Izra Gould, Pres., Eighth and G Sts., let contract on cost plus basis to J. P. F. White, 1419 R St., N. W., for $50,000 branch bank; non-fireproof, stone and brick, 2 stories, oak and terrazzo floors, tin roof, conc. foundation; G. Oakley Totten, Jr., Archt.-Engr., 808 17th St., N. W. 12-5

Md., Bel Air—Mutual Life Insurance Co., W. J. Young, let contract to Bailey & Coale, Churchville, for $30,000 office bldg.; brick, 2 stories; J. B. Hamme, Archt., 31 W. Market St., York, Pa. 9-5

Mo., Kansas City—Following sub-contracts let on $5,400,000 office bldg., hotel, bus station and garage development for Interurban Central Station Co., for which Thompson-Starrett Co., Inc., Monroe Bldg., Chicago, Ill., and 250 Park Ave., New York, have general contract: Excavation, Norton Bros., 103 W. Armour St.; lumber, Dierks Lumber Co., Gates Bldg.; materials, Stewart Sand & Material Co., City Bk. Bldg., and Welch-Sandler Cement Co., 1311 E. 19th St.; Ready Mix concrete, Ready Mix Concrete Co., 25th and Summit; testing and inspection, Kansas City Testing Laboratory, 700 Baltimore Ave.; rein. steel and removable forms, E. C. Marqua Co., Finance Bldg.; plumbing, E. D. Hornbrook, 1116 Oak St.; heating and ventilating, U. S. Engineering Co., 914 Campbell; sprinklers, Automatic Sprinkler Company of America, New England Bldg.; struct. steel and steel erection, Kansas City Structural Steel Co., 21st and Metropolitan Aves.; roofing, Sellers & Marquis Roofing Co., 2201 Broadway; hardware, Richards & Conover, Fifth and Wyandotte; sheet metal, Kornbrodt Kornice Co., 1811 Troost St.; orna. iron and elevator enclosures, Southwest Ornamental Iron Co., 1722 Tracy St.; tin clad doors, Acme Fireproof Door Co., 2131 Washington St.; rolling steel doors, Geo. W. Johnson Manufacturing Co., 209 W. 17th St.; access panels, Higgins Manufacturing Co., all Kansas City; granite, John Clark Co., 53 W. Jackson Blvd.; stone setting, Archer Stone Setting Co., 228 N. LaSalle St.; elect. work, L. K. Comstock Co., 333 N. Michigan Ave.; fills and finishes, E. E. Davis Co., 2244 Calumet Ave.; garage doors, Richard Wilcox Manufacturing Co. and Harris Preble Co., 2424 W. 22nd St.; Campbell windows and factory sash, Campbell Metal Window Corp., 228 N. LaSalle St.; elevators and signals, Westinghouse Electric Elevator Co., 228 N. LaSalle St.; laundry chute, Metal Vitrix Co., 35 S. Dearborn St., all Chicago; cut stone, Bloomington Limestone Co., Bloomington, Ind.; casements, Michel & Pfeffer, Kansas City and San Francisco, Calif.; mail chute, Cutler Mail Chute Co., Rochester, N. Y.; hollow metal, Metal Door & Trim Co., La Porte, Ind., and 228 LaSalle St., Chicago; Wight & Wight, Archts., First Natl. Bk. Bldg., Kansas City. 8-8

Churches

Okla., Ardmore—Roman Catholic Church let contract for $12,000 parish house to Hugh McIntyre, Ardmore; brick and tile, 2 stories, 30x50 ft., oak floors and finish, tile roof, gas steam heat; Harold Gimeno, Archt., Norman. 12-19

Tenn., Chattanooga—Christ Church, E. G. Billingsley, Chmn., Bldg. Comm., let contract to Rogers & Leventhal, 822 E. 11th St., to remodel and enlarge bldg.; $75,000, brick, conc. footings, 2 stories and basement, 85x130 ft., hardwood floors, comp. roof, steam heat; L. H. Bull, Archt., Volunteer Life Bldg. 1-2

City and County

Fla., Miami Beach—City Council let contract to Tropical Homes, Inc., Lincoln Rd., to remodel and erect addition to police station; $10,000; Russell Pancoast, Archt., 1139 Lincoln Rd. 12-19

La., Oakdale—City let contract to John W. Hudson for 2-story brick fire station; 24x40 ft.

Miss., Jackson—Pauly Jail Building Co., 2215 DeKalb St., St. Louis, Mo., has jail equipment contract for $850,000 Hinds County courthouse and jail; Claude H. Lindsley, Archt., Edwards Hotel Bldg., Jackson; Gardner & Howe, Struct. Engrs., Porter Bldg., Memphis, Tenn.; C. A. Peerman, Mech. Engr., 400 S. 21st St., Birmingham, Ala.; Angle-Blackford Co., Contr., Amer. Exch. Bk. Bldg., Greensboro, N. C. 1-2

Tex., Austin — Fox-Schmidt Co., 415 W. Sixth St., has plumbing, heating and wiring contract at $71,000 for $600,000 courthouse; Page Bros., Archts., Austin Natl. Bk. Bldg., Austin; Gardner & Howe, Struct. Engrs., Kirby Bldg.; R. F. Taylor, Mech. Engr., Santa Fe Bldg., both Dallas. 10-17

Tex., San Antonio—City let contract at $27,600 to W. H. Wolter for Harlandale Fire Station, S. Flores and Robert E. Lee Sts.; 1 and 2 stories, rein. conc. and brick, tile roof; L. Harrington Co., Archt.-Engr., Builders Exch. Bldg. 1-2

Dwellings

Ark., Perryville—Bowen, Colvin & Bland, care Earl Bowen, erect 10 brick veneer and frame dwellings, Bowen Addition; 1 story, oak floors, comp. shingle roofs, $3500 each; owner builds.

D. C., Washington—Francis Colt deWolfe, 1232 33rd St., N. W., let contract to De Sibour Construction Co., 1200 15th St., N. W., for $40,000 constr. work, 3322 O St., N. W.; J. J. Whelan, Archt., 1731 L St., N. W. 12-19

D. C., Washington—M. D. Skinker, 4444 Connecticut Ave., N. W., erect $15,000 resi-

dence, 1615 Kennedy Place, N. W.; brick, 2½ stories; A. B. Heaton, Archt., 1211 Connection; Skinker & Garrett, Contrs., 1416 F St., N. W.

D. C., Washington—Mrs. S. Beach, care Porter & Lockie, Archts., 1800 E St., N. W., erect $29,000 residence, 24th St., N. W., near California St.; brick, 2½ stories; C. A. Langley & Co., Contrs., 1509 Connecticut Ave., N. W.

Fla., Coral Gables, Miami—Rodney Miller, Contr., 2618 Alhambra Circle, and associates, have plans under construction for several dwellings.

Fla., Miami Beach—Tropical Homes, Inc., Lincoln Rd., erect $35,000 dwelling, servants' quarters and garage, Alton Rd. near 33rd St.; rein. conc., conc. block and stucco, tile roof, baths and floors, steel sash, wrought iron, stone work; L. M. Barrett, Archt., care owner; owner builds.

Fla., Miami Beach—Mrs. John B. Reid, 5878 Pine Tree Drive, erect $20,000 residence and garage, Meridian Ave. and Dade Canal; rein. roof, floors and bath, cast stone, wrought conc., conc. block and stucco, 2 stories, tile iron; A. Frazer Rose, Archt.-Engr., 537 Collins Ave.; work probably by owner.

Fla., Miami Beach—J. C. Devine Properties, 1337 Collins Ave., erect $25,000 dwelling, Pine Tree Drive and W. 33rd St.; 2 stories, 55x58 ft., L shape, 2-car 29x22-ft. garage, conc. block, rein. conc. foundation and floor slabs, tile floors and baths, tile roofs, orna. iron; E. L. Robertson, Archt., Calumet Bldg., Miami; owners builds.

Fla., Miami Beach—E. A. Todd, 2132 Alton Rd., erect bungalow court, 28th St. and Sheridan Ave.; 7 dwellings and garages, rein. conc. conc. block, stucco, wood floors, tile baths, tile and comp. roofs, steel sash, orna. iron; G. R. Clark, Designer-Contr., 925 Lincoln Rd.

Fla., Miami Beach—Gascoyne Realty Co. erect $12,500 dwelling and garage, 2051 Bay Rd.; rein. conc., conc. block and stucco, tile and wood floors, steel sash, Cuban tile roof; V. N. Nellenbogen, Archt.; C. R. Clark, Contr., both 925 Lincoln Rd.

Fla., Miami Shores—Sidney R. Carroll, 1218 Salzedo St., Coral Gables, plans dwelling; woner builds.

Ga., Atlanta—J. Russell Jordan & Son, 671 E. Morningside Drive, N. E., erect 2 brick veneer dwellings, 1710-14 Pelham Rd., N. E.; 1 story, 7 rooms, hardwood floors, shingle roofs, tile baths, steam heat; $15,000; owners build.

Ga., Fort Gaines—L. L. Gwynn erect brick veneer residence; 1 story, 7 rooms, 2 baths, hardwood floors, tile baths, comp. shingle or slate roof, hot air heat, conc. footings; Lockwood & Poundstone, Archts.; Edw. F. Billie, Asso. Archt., both 101 Marietta Bldg., Atlanta; day labor.

La., New Orleans—Geo. Kast, 4701 Palmyra St., erect $10,000 single raised residence, Canal Blvd. and Germain St.; brick veneer, 1 story, tile roof; Denis & Handy, Contrs., 823 Perdido St.

La., New Orleans—H. S. Zemmer, 826 Delachaise St., erect single raised dwelling, Fairway Drive near Metairie Rd.; Julian & Osborne, Contrs., 2412 Wistaria St.

Md., Baltimore—Northwest Real Estate Co., 306 N. Charles St., erect 17 brick dwellings, 4616-48 Rokeby Rd.; 2 stories, 20x34 ft. and 21x41 ft., slate and slag roofs, hot water heat; $51,000; Harlem Building Co., Archt.-Contr.

Md., Baltimore—Burkleigh Square Development Corp., care Philip E. Lamb, Gen. Mgr., Thicket near Boxwood St., soon start work on about 60 stone and frame dwellings, York Rd. and Burke Ave.; 2 stories; 3- and 6-dwelling units; $350,000; brick, stone porches, hardwood floors, slate roofs, tile baths, hot water heat, garages; owner builds.

Miss., Clarksburg—E. J. Mullens, Jr., let contract to W. R. Ellis for $45,000 residence; brick, 2 stories, 94x35 ft., pipe organ; Polk W. Agee, Archt., Fidelity Bk. Bldg., Memphis, Tenn. 12-12

Mo., Kirkwood—Wm. Hoch, 148 Peeke Ave., erect $10,000 residence, 130 Peeke Ave.; frame, 1½ stories and basement, 30x35 ft., tile bath, hardwood floors, comp. shingle roof, hot water heat; Dan Mullen, Jr., Archt., 18 N. Meramec St., Clayton; work by sub-contract.

Mo., St. Louis—A. C. Friehs, 320 Victor St., let contract to Barth Building & Real Estate Co., 4149 Gravois Ave., for $18,000 residence; brick, 2 stories and basement, 34x37 ft., hardwood and Linotile floors, slate roof; O. J. Popp, Archt., Arcade Bldg. 1-2

N. C., Greensboro—J. W. Hobbs, 608 Gorrell St., erect frame residence, 1403 Burtner St.; 2 stories and basement, 32x30 ft., hardwood and pine floors, comp. roof; work by sub-contract.

N. C., High Point—W. H. Slane, care Slane Hosiery Mill, erect $70,000 residence; hollow tile, stucco, steel floor joists, 2 stories and basement, 180x52 ft., wood floors, slate roof; furnishings, equipment, etc., $20,000; Northup & O'Brien, Archts., Reynolds Bldg., Winston-Salem; R. K. Stewart & Son, 111 S. Hamilton St., High Point, contract on fixed fee basis; pouring conc. footings. See Want Section—Building Material and Equipment. 12-12

Okla., Bartlesville—John H. Kaur let contract to Joe F. Gier, 600 Ward Pkwy., Kansas City, Mo., for brick and stone residence; 2 and 3 stories; Edw. Buehler Delk, Archt., Meyer Blvd. and Ward Pkwy., Kansas City. 12-12

Okla., Oklahoma City — Bonnenberger Brothers Co., Bldrs., Southwest Natl. Bk. Bldg., plan about 100 dwellings during 1930.

Tenn., Memphis—J. Y. Callahan, 375 N. Waldran St., erect $12,000 residence, Mullin Station Pike near Macon Rd.; brick veneer, 1 story, hardwood floors, tile bath, hot water heat, garage and servants' quarters; W. C. Lester, Archt., Dermon Bldg.; owner builds.

Tenn., Memphis—W. T. Perry, 2430 Forrest Ave., erect brick veneer residence, Trezevant St. near Jackson Ave.; 1 story, oak floors, comp. roof, tile bath; Claude Northern, Archt., Fidelity Bk. Bldg.

Tex., Fort Worth—Mobley & Delaney, Texas Natl Bldg., erect 3 brick veneer dwellings and garages, 6201-6221 Highland and 6312 Rosemont Aves.; $71,000; owners build.

Tex., Galveston — John Frenkel, Galvey Hotel, erect $15,000 residence, Cedar Lawn; R. R. Rapp, Archt., Guaranty Bldg., M. C. Bowden, Contr., 511 21st St.

Tex., Raymondville—Fred Raymond started work on $50,000 residence, Red Fish Bay Highway; Moorish-Spanish type, stucco.

Tex., San Antonio—E. Y. White, 217 W. Magnolia Ave., erect $30,000 residence, Wildwood Drive, Park Hill, Olmos Park Estates; 2 stories, 2 tile baths, tile roof, hot air heat; H. B. Thomson & Fred Gaubatz, Asso. Archts., 802 Alamo Bk. Bldg.; Matthews & Kenan, Consit. Engrs., Smith-Young Tower; John Westerhoff, Contr., Milam Bldg.

Government and State

D. C., Washington—Idadore Freund, 64 O St., has contract at $13,093 for lavatories, $10,000,000 Internal Revenue Bldg.

Md., Fort George G. Meade—Constructing Quartermaster, Capt. H. N. Williams, let contract for 17 sets of officers' quarters and 16 sets of n. c. o. quarters to P. J. Herter, Millikan Bldg., and R. L. Holmes, 2100 W. Market St., both Greensboro, N. C.; cost $350,000. 11-21

Hospitals, Sanitariums, Etc.

Ga., Atlanta—United States Veterans Hospital, Peachtree Rd., care Capt. T. M. Feltham, erect rein. conc., brick and tile laundry and boiler house bldg.; steel sash and doors, comp. roof; owner builds.

Mo., Excelsior Springs—Chicago Bridge & Iron Co., 1015 Chestnut St., Philadelphia, Pa., has contract at $11,240 for water tank, for $900,000 U. S. Veterans Hospital; Zeolite water softening system, $4773, Paige & Jones Chemical Co., 80 Marble St., Hammond, Ind.; refrigerating machinery, York Ice Machinery Co., 1238 44th St., Philadelphia, $16,452; elevator and dumb waiter, Millner Co., 1706 N. 12th St., St. Louis, Mo., $7868. 12-5

Tex., Abilene—State Bd. of Control, Austin, let contract at $19,520 to Balfanz Construction Co., Abilene, for fireproof occupational therapy and employes' dormitory, Abilene State Hospital; brick and tile, fireproof, 2 stories, 74x36 ft., tile and cement floors, conc. foundation, tar and gravel roof; David S. Castle Co., Archt.-Engr. 12-26

Tex., Beaumont—Beaumont General Hospital let contract to Herman Weber, Perlstein Bldg., for $175,000 addition; plumbing and heating, Plumbing & Heating Company of Beaumont; elect. work, Neches Electric Co., 616 Pearl St.; 4 stories and basement, 4 operating rooms, 36x50 ft. sun parlor on top floor; Livesay & Weidemann, Archts., San Jacinto Life Bldg. 9-26

Tex., Houston—City let contract for $27,000 out-patients' clinic, Jefferson Davis Hospital, to B. P. Panas, Esperson Bldg.; frame and stucco, 2 stories, 46x90 ft.; plans by Hamp L. Shaw, City Engr. 12-5

W. Va., Beckley—Edw. M. Coll, 229 S. 3rd St., Clarksburg, has $20,000 elect. contract for $250,000 hospital for J. M. McCulloch and A. U. Tieche; Warne, Tucker, Silling & Hutchinson, Archts., Masonic Temple, Charleston; Garland Freeman, Gen. Supt. of Constr., Beckley. 11-28

Hotels and Apartments

Ala., Gadsden—J. C. Inzer and Joe Rhea rebuilding 2-story and basement, brick and hollow tile apartment, 822 Turrentine Ave.; built-up roof, steam heat; Paul Maier, Evansville, Ind., recently incorrectly reported to erect apartment. 1-2

D. C., Washington—J. Y. Pennybaker, 1520 K St., N. W., let contract to Martin Bros., 1241 Connecticut Ave., N. W., for 5-story, brick store and apartment, 11th and V Sts., N. W.; 24 suites, 3 stores; C. West, Archt., 1341 Connecticut Ave., N. W. 12-12

Mo., Kansas City — Interburban Central Station Co.'s $5,400,000 office bldg., hotel, bus station and garage development; for sub-contracts see Contracts Awarded—Bank & Office; Wight & Wight, Archts., First Natl. Bk. Bldg., Kansas City; Thompson-Starrett Co., Inc., Contr., Monroe Bldg., Chicago, Ill., and 250 Park Ave., New York. 8-8

Mo., St. Louis — Louis Wenneker, 5722 Lebadie Ave., erect two 2-story and basement, 35x55 ft., brick apartment, Delmar Blvd., west of North Road; slate or tile roofs, hardwood floors, hot water heat, oil burner; Ben Shapiro, Archt., Synd. Trust Bldg.; owner builds by sub-contract.

Tenn., Knoxville—H. N. Carmichael, F. E. Barkley, Fred Stair and others organized for completion of $500,000 apartment on N. Broadway; H. E. Rogers, Contr., 977 Lee Ave. 2-28-29

Tex., San Antonio—Mrs. O. W. Thomas, 1748 W. Summitt St., let contract to Harlandale Building Co., 6029 S. Flores St., for $16,000 8-apartment, Camden and Atlanta Aves.; M. A. Ryan, Archt., Service Bldg. 12-26

Tex., Texarkana — Following sub-contracts awarded on W. A. McCartney Hotel for which P. O'B. Montgomery, Construction Industries Bldg., Dallas, has general contract at $230,300, foundation completed: Piles, Raymond Concrete Pile Co., Marine Bk. Bldg.; Carthage stone sills, Bedford-Carthage Stone Corp., Democratic Bldg., both Houston; sheet metal, roofing, waterproofing, H. H. Bain Sheet Metal Works, 808 Reynolds St., Shreveport, La.; metal windows American Sheet Metal Works, 331 N. Alexander St., New Orleans, La.; medicine cabinets, Huttig Sash & Door Co., 304 N. Crowders St.; terrazzo, American & Venetian Marble Co., 412 S. St. Paul St.; tile, Southern Tile Co., 949 S. Lamar St.; misc. and orna. iron, Dallas Iron Works, 3301 Oak Lane; face brick, Acme Brick Co., Santa Fe Bldg.; elevator doors, Weaver Ornamental Iron Works, 1807 Carter St.; vitrobestos stack lining, Rogers Asbestos Co., Inc., 953 S. Lamar St.; metal toilet partitions, Gilbert Manufacturing Co., Inc., Marvin Bldg.; kalamein and tin-clad doors, Hensen-Macgruder, Inc.; steel, cement and conc, tests, Pittsburgh Testing Laboratory, Santa Fe Bldg.; sidewalk lights, R. J. De Wees Co., Slaughter Bldg., all Dallas; mail chutes, Cutler Mail Chute Co., Rochester, N. Y.; screens, Quality Scheen Co., Abilene; glass and glazing, Texarkana Casket Co.; excavation, Otto Yenglin, both Texarkana; cement, Oklahoma Portland Cement Co., Perrine Bldg., Oklahoma City, Okla., for delivery through Buhrman-Parr Hardware Co., Texarkana; millwork, Standard Lumber Co., 407 E. Fifth St., Pine Bluff, Ark.; rein. steel, Sheffield Steel Corp., Sheffield, Kansas City, Mo.; Joseph Finger, Archt., Democratic Bldg., Houston. 12-5

Miscellaneous

Fla., Lake Placid—Lake Placid Club of Florida, Dr. Melville Dewey, Pres., let contract to Albinson & Co., 185 E. Main St., Bartow, for $45,000, 2-story and basement, 117x86 ft. lodge building; stucco on frame, pine floors, comp. roof; Edwin H. Clark, Inc., Archt., 8 E. Huron St., Chicago. 10-24

Ga., Atlanta—Reeve's Cafeteria, 60 Peachtree St., N. E., let contract to F. E. Varner, McGlawn-Bowen Bldg., for interior improvements to building; new Broad St. front, millwork, plastering, painting, wainscoting.

Mo., Kansas City—Linwood Boulevard Presbyterian Church, Rev. H. C. Rogers, Pastor, let contract to H. H. Fox, 3101 30th St., for $100,000, 4-story, brick building, Linwood Blvd. and Michigan Ave., for Linwood Persbyterian Home for Convalescent Employed Women; Keene & Simpson, Archts., Land Bk. Bldg. 11-28

Schools

Ala. Birmingham — Rockwood Alabama Stone Co., Rockwood, P. O. Russellville, has contract for stone and fabrication for West End High School for which Smallman Construction Co., 1109 Fifth Ave., has general contract at $139,831; Warren, Knight & Davis, Archts., Protective Life Bldg. 12-19

Ala., Fairhope—Alabama Polytechnic Institute, Auburn, Dan T. Jones, in charge of

construction, let contract to J. T. Dean, Clayton, for farm experiment station.

Ala., University—Rockwood Alabama Stone Co., Rockwood, P. O. Russellville, has contract for rough stone to be delivered from Aday Quarry to Reed Bros., 3000 8th Ave., N., Birmingham, who have fabricated contract for Alabama Union Building at University of Alabama, for which Algernon Blair, First Natl. Bk. Bldg., Montgomery, has general contract at $259,700; Martin & Miller, Archts., Title Bldg., Birmingham. 12-26

Fla., Fort Lauderdale—Broward County Bd. of Public Instruction let contract at $28,225 to Hart & Johnson for gymnasium at Stranahan High School. 12-19

Ga., Bluffton—Bluffton Consolidated School Dist., C. R. Sanders, Chmn., let contract to C. E. Register, Nashville, Ga., for 1-story and basement, 149x55 ft. 6-classroom and auditorium, brick school; comp. roof, struc. steel columns and truss in auditorium; Lockwood & Poundstone, Archts.; Edw. F. Billie, Asso. Archt., both Marietta Bldg., Atlanta. 12-26

Ga., Canton—Bd. of Education, Dr. Grady N. Coker, Chmn., let contract at $61,975 to T. C. Wesley & Son, Red Rock Bldg., Atlanta, for 2-story and basement, 117x84-ft. brick and rein. conc. classroom and auditorium high school addition; marble or terra cotta trim; A. Ten Eyck Brown, Archt.; A. Barili, Jr., Asso. Archt., both Forsyth Bldg., Atlanta. 12-19

Ky., Morehead — Eastern State Normal School and Teachers College let contract at $175,000 to Key Langston Construction Co., Murray, for 3-story, 210x65 ft., brick and stone, fireproof training school building; 14 classrooms, 11 practice rooms, 2 laboratories, domestic science unit, assembly hall and manual training dept.; Joseph & Joseph, Archts.; Walter C. Wagner, Asso. Archt., both Breslin Bldg., Louisville. 11-28

La., Baton Rouge—Louisiana State University let contract at $38,000 to D. E. Chapman, Southdowns St., for two brick and rein. conc. animal pathological buildings; stone trim, asbestos slate roofs, conc. and wood floors; Wogan & Bernard, Archts., Reymond Bldg. 12-19

La., Monroe — City, Arnold Bernstein, Mayor, let contract at $25,995 to W. C. Salley for 1-story, brick and stucco trim grade school; 4 classrooms, built-up comp. roof, wood floors; J. W. Smith & Associates, Archts., both Ouachita Natl. Bk. Bldg. 12-12

Md., Fullerton—Baltimore County School Bd., S. Shoemaker, Pres., Towson, let contract to North-Eastern Construction Co., 6 W. Madison St., Baltimore, for $70,000, 3-story, brick, 8-classroom addition to school, Belair Road; Smith & May, Archts., Calvert Bldg.; Huldreich Egli, Mech. Engr., 425 St. Paul St., both Baltimore. 7-4

N. C., Raleigh — North Carolina School for Blind has permit for repairs to business building on Ashe Ave.; $50,000; J. P. Rogers, Contr.

Okla., Putnam — Putnam Consolidated School Dist. started work on $30,000 school; Shaffer-Reynolds Construction Co., 915 N. Hudson St., Contr.; Guy C. Reid, Archt., Elks Bldg., both Oklahoma City. 10-17

Stores

D. C., Washington—S. Kahn Sons Co., 8th and Market Space, expending $20,000 for improvements to building, 1216-18 G St., N. W.; G. C. Murphy Co., Contr., McKeesport, Pa. 1-2

La., Minden—Mrs. Mary M. Ferguson let contract to F. C. McClanahan, Homer, for 1-story, 60x120-ft. brick store, N. Broadway and Pine St.; 4 store spaces.

La., New Orleans—Sam Malone, 1122 S. Calhoun St., erect store, 1128 S. Carrollton Ave.; A. N. Curley, Contr., 7726 S. Claiborne, ready for sub-bids.

Md., Frederick—A. Hamburger, N. Market St., let contract to Fairchance Lumber Co., Fairchance, Pa., for $35,000, 2-story, brick store and office building, N. Market St.; 40x62 ft., comp. roof, wood floors, A. Hileman, Archt., Frederick Hotel; work started. 1-2

Md., Towson—Ellis Finkelstein, 408 York Road, let contract to W. H. Sands, Pennsylvania Ave., for $30,000, 2-story, brick stroe and apartment; Abraham Finklestein, Archt., Equitable Bldg., Baltimore. 11-21

Mo., Joplin—S. S. Kresge Co., 74 W. Adams St., Detroit, Mich., let contract to W. R. McCormick, Joplin Natl. Bank Bldg., for $100,000, 2-story, brick store, 514-18 Main St.; limestone trim. 12-19

Mo., Wellston, St. Louis—Neisner Brothers, Inc., J. C. Pierson, Engr., Dept., 49 East Ave., Rochester, N. Y., let contract to Kenton Construction Co., Wainright Bldg., St. Louis, for $100,000, 50x100 ft., brick store, Easton and Irving Sts. 12-5

Okla., Hollis—J. M. Coley expend $10,000 for improvements to store on Broadway; J. C. Penney Co., 330 W. 34th St., New York, Lessee.

Tenn., Knoxville—Bass & Clayton, Nashville, soon begin work on 1-story, 128.6x60 ft., brick store, Church Ave.; also parking garage; H. E. Rogers, Contr., 977 Lee Ave., Knoxville; Hart, Freeland & Roberts, Archts., Jackson Bldg., Nashville; Fretz Realty Co., 616 Market St., Knoxville, will have supervision of erection of building and leasing.

Tex., Amarillo — Schulte-United, Inc., J. Roy Smith, Supt. in charge of construction, soon start work on $75,000 improvements to Blackburn Bldg., for store.

Tex., Beaumont—H. A. Perlstein, Perlstein Bldg., let contract to W. H. Bowen Construction Co., El Paso, for 3-story, brick, rein. conc. addition and improvements to S. H. Kress & Co.'s store, 573 Pearl St.; $150,000; plans by C. H. Mackay, Archt. for S. H. Kress & Co., 114 Fifth Ave., New York. 1-2

Tex., Beaumont—Mrs. Lipscomb Norvell, 1628 Franklin St., started work on $23,000 community store, Franklin St. and Avenue C; Spanish design, hollow tile and stucco; Herman Weber Construction Co., Contr., Perlstein Bldg.; Irby & Woodside, Archts., Goodhue Bldg.

Tex., Corpus Christi—J. L. Welch and C. J. Tschiedel, 914 Leopard St., let contract at $34,282 to Vivrett & Vivrett, Nixon Bldg., for 1-story, 100x82 ft., brick, tile, rein. conc., cast stone trim store, Leopard and Waco Sts.; Dielmann & Levy, Archts., State Natl. Bk. Bldg. 12-19

Tex., San Antonio—John Westerhoff, Milam Bldg., remodeling 4-story Princess Theatre, E. Houston St., for 4-story department store; steel, conc., hollow tile and cast stone; $175,000; Harvey L. Page, Archt., 206 Crescent St., Alamo Heights; Beretta-Stiles Co., Inc., Consltg. Engr., Natl. Bk. of Commerce Bldg.

Tex., Spearman — A. B. Stetson started work on 25x100-ft. brick business building; John L. Peck & Son, Contrs.

Va., Richmond—Farm Bureau started work on 3-story, brick, conc. and steel buildng on Main St.

Theaters

Tenn., Nashville—Publix Theatres Corp., J. F. Sweeney, Paramount Bldg., New York, let contract to Kaiser-Ducett Co., Rialto Square Bldg., Joliet, Ill., for $500,000, 100x125 ft., fireproof motion picture theatre, Church St. and 8th Ave.; seat 2000 people; John Eberson, Archt., 200 W. 57th St., New York, and 212 E. Superior St., Chicago. 9-26

Warehouses

Ark., Fort Smith—Narisi Bros., Garrison Ave., let contract to Walter Vernon for 1-story and basement, 100x125 ft. warehouse; Haralson & Nelson, Archts., Merchants Natl. Bk. Bldg. 12-26

Fla., Pensacola—Louisville & Nashville R. R., W. H. Courtenay, Ch. Engr., Louisville, Ky., erect 400x60 ft. warehouse near Goulding Station; 50-carload capacity; brick, conc. floors; W. Horace Williams Construction Co., Contr., Tarragona St.

Ga., Atlanta—O. A. Smith Co., 83 Marietta St., N. W., let contract to G. H. Butler, Glenn Bldg., for $10,000, 1-story, brick warehouse on Whitehall St.; comp. roof.

Tex., San Antonio—International Harvester Co., W. D. Price, Supt. of Constr., Harvester Bldg., Chicago, J. M. Ryan, Branch Mgr., Bedell Bldg., let contract at $74,980 to Kucharo Construction Co., Hubbell Bldg., Des Moines, Iowa, for 2-story and basement, 250x87-ft., brick, hollow tile and stucco, cast stone trim branch house, S. Flores and Peden Sts.; tile roof, conc. and terrazzo floors; plans by Company Engr. 12-12

Iron and Steel Year Book.—The 1929 yearbook of the American Iron and Steel Institute, New York, carrying full reports of the May and October meetings of the Institute, was recently issued. This volume constitutes the 19th of a series outlining the proceedings of the general meetings of the Institute, the first of which was held in New York on October 14, 1910.

Trade Literature

Grinnell Memoranda Book.—Of vest-pocket size and attractively bound in olive-colored leather of velour finish, a memoranda book issued by the Grinnell Company, Inc., of Providence, R. I., manufacturers of automatic sprinklers, industrial piping, heating and power equipment, fittings, pipe, valves and hangars, presents much valuable information. For instance, the book devotes space to domestic and foreign postage, domestic parcel-post rates, weights and measures, rate of income on stocks, rules of computing interest, population of larger cities, approximate values of foreign currency, time difference, United States signal service and storm signals, accident and fire prevention, rules, automobile identification blank and blank for tire record, interest laws, mileage between various cities and calendars for 1930 and 1931.

Pipe Line Welding.—The Fusion Welding Corporation, Chicago, manufacturers of welding equipment and supplies, and a subsidiary of the Chicago Steel & Wire Company, recently issued the Fusion News for January, which details the welding with the metallic arc process of one of the longest oil-carrying pipe lines in the world, that of the Texas Pipe Line Company and the Texas-Empire Pipe Line Company. The main trunk runs from Cushing, Okla., to East Chicago, a distance of 624 miles, with 200 miles of branch lines. An electrode known as Weldite No. 18, a product of the Fusion Welding Corporation, was used.

Copper and Brass.—A special issue of the bulletin of the Copper and Brass Research Association, New York, features copper's service to industries and tells of the role it plays in meeting increased demands for machinery and manufacturing materials. Industries using it in increasing quantities, according to the bulletin, are the printing industry, watch and clock manufacturers, fabricating industries, electrical industries, transportation systems, manufacturers of toilet articles, textile industry and electrical power generating systems, besides numerous others.

Automatic Telephone.—The Automatic Telephone, a bi-monthly publication issued by the Automatic Electric, Inc., Chicago, carries in the November-December number, among others, an interesting article by L. L. Ruggles on installation of the Strowger automatic dial telephone equipment at Columbia, Mo. The publication also contains an article detailing unusual features which typify a Strowger installation at Hopewell, Va.

Grinders and Buffers.—The U. S. Electrical Manufacturing Company, Los Angeles, Cal., is distributing a bulletin devoted to its 1930 series of Auto Start grinders, describing new features embodied in this machine, including a new chip shield which dispenses with the need of goggles. The bulletin describes also the Auto Start buffer used extensively in tire vulcanizing shops and polishing departments.

Bale Piling.—The Revolvator Co., Jersey City, N. J., manufacturers of Revolvator material handling equipment, have issued bulletin 85C from their general catalog, on the art of piling. The publication illustrates and describes the use of the Revolvator in piling bales of cotton and other soft materials too heavy and clumsy to be conveniently handled by other means.

WANT SECTION

THE CLASSIFICATIONS IN THIS SECTION ARE:

Machinery and Supplies
Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

Building Materials and Equipment
This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

Bids Asked
Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Air Compressor.—Lewter F. Hobbs, Inc. (Mchy. Dealer), McKevitt Bldg., Norfolk, Va.—Wants steam driven air compressor of 500 cu. ft. capacity; used, good condition.

Boilers. — Tennessee Lumber & Coal Co., Oneida, Tenn.—Wants prices and data on 2 or 3 h. r. t. boilers, not smaller than 72x18 ft., with 150 lb. minimum insurable working pressure; can use bare boiler, but prefers complete with fittings and casing for Dutch oven setting.

Dairy Machinery.—Potomac Farms Dairy Co., Inc., Fifth and Race St., Cumberland, Md.—Wants prices and data on dairy plant machinery of all kinds.

Electric Generating Unit (Diesel).—J. R. Christian (Contractors' Equipment, Supplies, etc.), Post-Dispatch Bldg., Houston, Tex.—Wants prices and data on Diesel electric generating unit, 125 to 150 h. p., delivery in Central Texas.

Generator.—J. M. Griffin Lumber Co., Holopaw, Fla.—Wants small steam turbo generator, 2300 volt.

Engine and Boiler (Portable).—R. P. Johnson (Mchy. Dealer), Wytheville, Va.—Wants prices and data on 40 to 50-h. p., portable engine and boiler, on wheels, high pressure outfit preferred; good used condition.

Graphite Grinding and Separating Machinery.—Laurel Creek Mining Corp., Abe Williams, Pres., Bluefield, W. Va.—Wants prices and data from manufacturers of machinery for grinding and separating graphite.

Gyratory Crusher.—R. E. Boggs (Mchy. Dealer), 918 Comer Bldg., Birmingham, Ala.—Wants prices and data on Gyratory crusher, No. 30 or 36: openings approx. 30x115 in. or 36x130 in., first class condition; preferably located in South or Southeast.

Quarry Machinery. — American Granite Corp. of Georgia, Harry C. Morris, P. O. Box 760, Elberton, Ga., develop 80-acre marble deposit—Wants prices and data on modern quarry machinery.

Resaw.—J. M. Griffin Lumber Co., Holopaw, Fla.—Wants vertical band resaw; good condition.

T. R. Smeat & Co., Atlantic Natl. Bank Bldg., Jacksonville, Fla.—Wants prices and data on following:
(1) **Cars (Log)**—4, standard gauge, 14 in. wheel, used, complete
(2) **Locomotive**—standard gauge
(3) **Rail (Relay)**—1 mi., 30 or 35 lb.
(4) **Switches**—2.

Eshelman Supply Co., Inc., 1431 N. 25th St., Birmingham, Ala. — Wants prices and data on following:
(1) **Automatic Feeds**
(2) **Metal Stamping Machines**
(3) **Punch Machines**—light
(4) **Sheet Metal Working Machinery, etc.**

Guyan Machine Shops, Inc., Logan, W. Va.—Wants prices and data on following.
(1) **Hoists** — for I beam, 1 ton to 3 ton capacity, a. c. and d. c., 220 volts
(2) **Lathe**—for turning steel tires and steel locomotive wheels up to 40 in. diam. and, 32 to 48 in. gauge
(3) **Motors**—a. c. 220-440 volts, 3 phase, 60 cycle, with base and starter; 1—20 h. p., 720 r. p. m.; 2—10 h. p., 900 r. p. m.; 2—7½ h. p., 900 r. p. m.
(4) **Motor-Generator** Set — Ridgway, 150 or 220 kw, with 660 volt, 60 cycle motor, 250 volt generator
(5) **Punch and Shear**—preferably No. 1½ Buffalo Universal Iron Worker
(6) **Rotary Converter** — or motor-generator set, 25 cycle to 250 volts, d. c.
(7) **Squaring or Paper Shear**—about 36 in. capacity
(8) **Stencil Cutter**—for cutting paper stencils
(9) **Tool Cribs, Tool Bins and Steel Shelving**—for tool room and supply house
(10) **Truck (Motor)**—5 ton capacity
(11) **Welding Machines**—200 to 300 ampere, gasoline driven.

W. E. Spikes, Pine Bluff, Ark., will develop 150 acres for corn and cotton.—Wants prices and data on following:
(1) **Cultivators**
(2) **Harrows**
(3) **Planters**
(4) **Plows**
(5) **Wagons.**

D. C. Elphinstone, Inc. (Contractors' Equipment and Supplies), 120 S. Calvert St., Baltimore, Md.—Wants prices and data on following.
(1) **Cars**—10, 12-yd., standard gauge, 2 way dump; 20, 20-yd., standard gauge, 2 way dump
(2) **Locomotives**—2, 10 ton, 36 in. gauge, gasoline; 2, standard gauge saddle tank, 30 to 60 ton, 6 wheel drivers preferred
(3) **Shovel (Tunnel)**—½ yd., air operated.

Miscellaneous

Logs (Ash and Maple).—Hardwood Lumber Co., Inc., P. I. Edwards, Mgr., Clinton, N. C.—Wants prices and data on ash and maple logs, 13 in. and up.

Miscellaneous.—Knull Floral Supply Co., 914 Tampa St., Tampa, Fla.—Wants prices and data from manufacturers of glass fish bowls in various sizes and colors.

Wire Fencing. — Union Mfg. Co., Union Point, Ga.—Wants prices and data on about 1500 ft. wire fencing, for enclosing mill grounds, with gates, posts, etc.

Wire Mats.—Southern Wire & Iron Works, 305 Martin St., S. E. Cor. E. Fair St., Atlanta, Ga.—Wants prices and data on wire mats.

Gas-O-Flame Stove Works, Port Deposit, Md.—Wants prices and data on following.
(1) **Charcoal**—graded to size about ¾ in.
(2) **Coke**—No. 2, nut size
(3) **Gray Iron Castings**
(4) **Sheet Metal (Fabricated)**—12 gauge.

Pound River Electric Co., Inc., Chant Branham, Pound, Va.—Want prices and data on following:
(1) **Anchors**—25 non-creeping, with rods, to hold poles on corner
(2) **Bolts (Carriage)**—650, ⅜x4, to hold cross arms level
(3) **Bolts (Machine)**—50, ⅝x10; 100, ⅝x12; 25, ⅝x14; 25, ⅝x16; galv., for bolting cross arm to pole
(4) **Bolts (Spacing)** — 50, ⅝x14; 50, ⅝x16; galv., double arm strain on corners
(5) **Cross Arm Braces**—300, 26 in., to hold cross arms level
(6) **Cut Out Boxes**—24, 2300 volt, for use on transformer leads
(7) **Eye Nuts and Dead End Clevices**—25, to break circuit on guy and make dead ends on main line
(8) **Guy Wire**—1500 ft., ⅜ in., to hold poles on corner
(9) **Insulators (Porcelain)**—400, 2300 volt, for use on main line
(10) **Insulators (Screw)**—400, No. 3600 or 3700 to hold wire on hose
(11) **Insulators (Strained)**—75, for guys, to break circuit on guy and make dead ends on main line
(12) **Medal Pins**—50, Western Union, lead top, for running leads to transformers
(13) **Pins (Locust)**—350, standard size, for use in cross arms
(14) **Transformers**—4, 10 kw. or kv-a.; 5, 7½ kw. or kv-a.; 1, 5 kw., or kv-a.; reducing 2300 volts to 100 and 220 volts.
(15) **Washers**—300, 2x2, with ⅝ in. hole
(16) **Wire**—3 mi. of No. 6 bare copper; 2 mi. of No. 4 W. P. copper
(17) **Wire Racks** — 50, 3-wire, complete, to hold secondary wire.

Building Material and Equipment

R. K. Stewart & Son, Contrs., 111 S. Hamilton St., High Point, N. C., want prices on following for $70,000 dwelling:
Roofing—slate
Vaults.

Bd. of Education, M. M. Freeman, Sec., West Plains, Mo., wants prices on following for 3-story brick school:
Fire Escape Equipment.

Guyan Machine Shops, Inc., Logan, W. Va., wants prices and data on following:
Shed (Steel)—or building about 60x60 ft.

Jeremiah Schmidt, Archt., New Braunfels, Tex., wants prices on following for $38,000 jail:
Flooring—cement tile.

Harry E. Eldridge, Engr., Agricultural and Mechanical College, Jonesboro, Ark., wants prices on following for $32,000 faculty club:
Dumb Waiters
Electric Refrigerators
Flooring—hardwood, linoleum
Limestone
Metal Ceilings
Plaster Board
Roofing—asbestos shingle
Brass and Bronze Work.

Bids Asked

Cafeteria Equipment.—Commrs., Dist. of Columbia, Washington.—Bids Jan. 21 for cafeteria equipment for use in public schools.

Dikes.—U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, Mo.—Bids Jan. 27 for constructing about 5600 lin. ft. standard pile clump dikes, Missouri River, Iatan Bend, about ¼ mi. from Oak Mills, Kans.

Dredging.—U. S. Engr. Office, Mobile, Ala.—Bids Jan. 14 for maintenance dredging in Pascagoula River and Mississippi sound channels, Miss., to depth of 19 ft. and width of 150 ft., involving approx. 1,250,000 cu. yd. material.

Dredging.—Claiborne-Annapolis Ferry Co., Court of Appeals Bldg., Annapolis, Md.—Bids Jan. 15 for dredging and constructing about ½ mi. of channel, 200 ft. wide, in Chesapeake Bay on shore of Kent Island, comprises dredging of approx. 1850 lin. ft. of channel, 200 ft. bottom width, and terminal basin with bottom dimensions 400 ft. square, involving excavation of 230,000 cu. yd., depth of dredging ranging from nothing at outer end of channel to maximum cut of about 18 ft. at shore; Kastenhuber & Anderson, Engr., Stewart Bldg., Easton, Md.

Earthwork. — U. S. Engr. Office, McCall Bldg., Memphis, Tenn.—Bids Feb. 4 for constructing about 2,945,000 cu. yd. earthwork in Upper St. Francis Levee Dist. on what is known as Birds Point-New Madrid Floodway Levee—See Construction News Columns—Miscellaneous Construction.

Fire Engine Pump.—County Auditor, Dallas, Tex.—Bids Jan. 13 for motorized 750-gal. fire engine pump.

Fire Extinguisher.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Jan. 16 for 18 fire extinguishers, delivery Quantico, Va.

Gasoline and Kerosene. — Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Jan. 18 for bulk motor-grade gasoline and kerosene. Sch. 2518.

Gravel.—Louisiana Highway Comn., H. B. Henderlite, Engr., Baton Rouge, La.—Bids Jan. 28 for washed and screened gravel, 40% sand-clay gravel, reef shell, clam shell, crushed limestone, slag and sand.

Hose (Fire).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Jan. 13 for 1500 ft. fire hose, delivery Quantico, Va.

Laboratory Equipment.—Commrs., District of Columbia, Washington.—Bids Jan. 14 for laboratory equipment for Paul Jr. High School.

Lime (Hydrated).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Jan. 14 for

12,000 lb. hydrated lime, delivery Quantico, Va.

Lumber.—Panama Canal, Office of General Pur. Officer, Washington, D. C.—Bids Jan. 23 for following, Sch. 2519:
Southern yellow pine and Douglas fir timbers, Southern yellow pine and Douglas fir lumber, California redwood lumber, white pine or sugar pine lumber, Port Oxford cedar lumber, cypress lumber, white oak lumber and white ash lumber.

Machine Shop Equipment, etc.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Jan. 21 for motor driven pipe expanding and flanging machine and wire forming machine.

Paper.—Joint Committee on Printing in Capitol, Washington, D. C.—Bids Jan. 27 for furnishing paper for public printing and binding and blank paper for use in Government departments and establishments in Dist. of Columbia, for 1 yr. beginning March 1; specifications include 3,000,000 lbs. standard newsprint paper; 10,080,0000 lbs. machine-finish book paper; 50,000 lbs. antique book paper, etc.

Print Shop Equipment.—Commrs. Dist. of Columbia, Washington, D. C.—Bids Jan. 28 for print shop equipment for public schools including job printing press, 2 paper cutters, rack, etc.

Radio Supplies. — Marine Corps, Q. M. Dept., Washington, D. C.—Bids Jan. 13 for radio supplies, delivery Quantico, Va.

Road.—Hallettsville, Tex. See Construction News—Roads, Streets, Paving.
Road. — Towson, Md. See Construction News—Roads, Streets, Paving.

Roads.—State of Florida — Bids for 4 roads. See Construction News — Roads, Streets, Paving.

Roads.—State of Texas. Bids for 47 roads. See Construction News—Roads, Streets, Paving.

Road.—Summerville, S. C. See Construction News—Roads, Streets, Paving.

Saw Filer (Automatic).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Jan. 15 for automatic saw filer and accessories, delivery Quantico, Va.

Sea Wall.—City Comn., Office of City Clerk, Port Arthur, Tex.—Bids Jan. 31 for constructing storm protection improvements, including 236,535 lin. ft. conc. sheet plies, 602,697 lb. anchor rods, 23,565 lin. ft. conc. coping, 23,605 lin. ft. conc. guard rail, 778 cu. yd. rein. conc. anchors, 182,200 cu. yd. earth levees, and fills; J. B. Converse & Co., Inc., Engr., Industrial Bldg., Port Arthur, and State Office Bldg., Mobile, Ala.

Sewer and Water Works. — Commrs. of South Hot Springs and Oaklawn Sewer and Water Improvement Dist. No. 2, Hot Springs, Ark.—Bids Jan. 21 for constructing 13 miles of sewer lines and 13 miles of water lines; plans, etc. with City Engr.

Squaring Shear (Motor Driven).—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Jan. 14 for motor driven squaring shear.

Street Lighting System.—City of El Paso, Tex., Herman Roach, Clk. Bids Jan. 16 for furnishing material and labor for installation and completion of special permanent street lighting system on W. San Antonio St. and portion of Davis St.

Time System.—Supvg. Archt., Treas. Dept., Washington, D. C.—Bids Jan. 22 for installation of time clock and dismissal system in Dept. of Agriculture Administration Bldg., Washington.

Truck Chassis.—City Comn., Jacksonville, Fla.—Bids Jan. 20 for 1½-ton truck chassis complete with enclosed cab and stake body.

Yellow Pine.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Jan. 16 for 80,000 bd. ft. yellow pine lumber, delivery Quantico, Va.

Water Piping (Brass).—Treasury Dept., Office of Supervising Archt., Washington, D. C.—Bids Jan. 30 for new brass water piping in U. S. post office at Rome, Ga.; Jas. A. Wetmore, Acting Supervising Archt., Washington.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers, whether they are advertisers, or subscribers, or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers

Becomes Operating Organization.

The National Equipment Corporation, Milwaukee, Wis., a consolidation of the Koehring and T. L. Smith companies, Milwaukee, the Insley Manufacturing Company, Indianapolis, Ind.; the Parsons Company, Newton, Iowa, and the Kwik-Mix Concrete Mixer Company, Port Washington, Wis., became an operating company January 1. R. E. Brooks was recently elected vice president in charge of sales, other officers including P. A. Koehring, president and treasurer; W. H. Insley, H. E. Smith, H. C. McCardell, W. J. Koehring, vice presidents; W. J. Zimmers, secretary; G. E. Long, comptroller, and C. A. Koehring, assistant treasurer. Announcement of these changes in policy will be made to the sales organization at the Road Show in Atlantic City next week, where the company will exhibit a new machine in the contractors' equipment field and several new models of present equipment.

Furnace Fans.—Bulletin No. 106, issued by the Wagner Electric Corporation, St. Louis, Mo., deals with fans for warm air furnaces, discussing in detail the advantages of installing furnace fans in cold air intakes of such furnaces. Advantages listed include: Reduction of fuel consumption, lower flue temperature, uniform heating, better control and other features.

Butler Bin at Road Show.

The Butler Bin Company, Waukesha, Wis., will exhibit its product at the National Road Show, Atlantic City, next week. The display includes a 40-cubic yard contractor's bin divided into three compartments and equipped with a modern weighing hopper, designed to meet demands for handling sand and two sizes of graded rock. The hopper itself has three compartments and is equipped with a graduated three-beam scale. The exhibit will contain also a cement weighing hopper, a small model two-compartment bin with volumetric proportioning hoppers and a small model of weight proportioning hopper with removable weights, a roller gate and duplex gate.

General Electric Vapor Lamp Company.

The Cooper Hewitt Electric Company, Hoboken, N. J., a General Electric organization, is now known as the General Electric Vapor Lamp Company, according to William A. D. Evans, president. The trade name, Cooper Hewett, will be retained, change in name being designed to coordinate activities of the company more closely with the General Electric Company and permit a wider use of the General Electric monogram. The company specializes in production and sale of lamps for industrial purposes and photographic studios, as well as quartz ultra-violet lamps, mercury switches, low voltage Neon tube lamps and Neon glow lamps.

Apprentice Drafting Contest.

According to an announcement by W. J. Fairbairn, secretary of the Milwaukee Branch, National Metal Trades Association, Ronald Eyrich, apprentice employed by the Allis-Chalmers Manufacturing Company, won first place in the annual drafting contest for apprentices conducted by the Milwaukee Branch of the association. Second place was won by Arthur Nolde of the Falk Corporation, and third place by Edgar Sundby of the Nordberg Manufacturing Company. Honorable mention was given to Harry Zarek of the Allis-Chalmers Manufacturing Company and to Bernard Schneider of the Chain Belt Company. Judges of the contest were E. H. Bruce of the Kearney & Trecker Corp., M. Smith-Peterson of the Nordberg Manufacturing Company and F. Schmidt of the Allis-Chalmers Manufacturing Company.

The design work was done under supervision of Warren Bishop, head of the drafting department at the Vocational School and the problem work was under supervision of M. J. Dalton of the Chain Belt Company. The contest was arranged by a committee composed of W. J. Gibson, Harnischfeger Corp., C. J. Freund, Falk Corp., M. J. Dalton, Chain Belt Co., George Havlista, Kearney & Trecker Corp., and R. W. Cox, National Brake & Elec. Company.

New 1930 Calendars Issued.

New calendars received recently include an attractive one issued by the John A. Roebling's Sons Company, Trenton, N. J., manufacturers of wire rope and wire, showing a section of the Hudson River bridge now under construction, in which Roebling products other than those used for actual suspension are playing a prominent part. The Carnegie Steel Company, Pittsburgh, Pa., is distributing a calendar carrying safety mottos for each month and presenting a picture of the Safety trophy which the company will award for 1930. An attractive calendar has been issued by the American-Hawaiian Steamship Company, San Francisco, operating coast-to-coast steamer service through the Panama Canal Line. The Ice Department of the Florida Power & Light Company, Miami, with the thought of producing a calendar a little different in service and durability, has issued one incorporating useful and instructive features and presenting a number of Florida scenes. A 1930 road machinery calendar comes from the W. A. Riddell Company, Bucyrus, Ohio, somewhat unusual in make-up and conveniently arranged. The International Harvester Company of America, Inc., Chicago, presents a calendar carrying the current month on the middle of the sheet, with the preceding month above and the succeeding month below. A calendar comes also from the O. J. Maigne Co., New York, Philadelphia and Washington, manufacturers of printers' rollers.

Bucyrus-Erie Machines at Road Show.

Three machines to be displayed at the Road Show in Atlantic City next week by the Bucyrus-Erie Company, South Milwaukee, Wis., will include a gas-air 1-yard shovel; 1030, ¾-yard gasoline, clamshell and dragline, and the 1020, ½-yard gasoline shovel, the latter being available with either chain crowd or rope crowd to suit special conditions. The complete line of Bucyrus-Erie machines ranges in size from ½- to 16-cubic yard capacity and embraces a number of types of power—gasoline, Diesel, gas-air, Diesel-air, electric, Diesel-electric and steam.

Westinghouse Supply System.

Nineteen wholesale electrical supply companies doing a total annual business of $60,000,000 and operating in 60 cities, have been organized by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., into a single system under the name of the Westinghouse Electric Supply Company. The new system embraces the following Southern units: Commercial Electrical Supply Company, St. Louis, Mo., and Memphis, Tenn.; Electric Appliance Co., Dallas, Houston, San Antonio and Harlingen, Tex., and Tulsa and Oklahoma City, Okla.; H. C. Roberts Electric Supply Co., Baltimore, Md., and the Pierce Electric Co., Jacksonville, Tampa and Miami, Fla. Southern central reserve warehouses are being established in Tampa, St. Louis and Dallas.

Jaeger Pumps at Road Show.

The Jaeger Machine Co., Columbus, Ohio, plans to exhibit a number of units of advanced design at the Road Show in Atlantic City next week. A self-priming centrifugal pump will be shown with the 1930 line of Jaeger-Barnes pumps, while other dewatering pumps will include a display of standard diaphragm, convertible diapraghm, lift and force pumps, plunger trench pumps and centrifugals. The Jaeger-Barnes triplex road pump will be on display, as will Jaeger Timken equipped tilting mixers, the "Speed King" non-tilter, Jaeger's 10S non-tilt mixer in combination with a detached skip scale. Timken roller thrust hoists and the trail or truck mixer, the latter being the latest addition to the Jaeger line.

Fay & Egan Sales Convention.

Sales representatives from various sections of the United States participated in the recent annual sales convention of the J. A. Fay & Egan Company, Cincinnati, Ohio. Design and construction of new machines the company is putting on the market at frequent intervals was featured in the discussions. It manufactures an all-electric "Safety Sealed" high frequency line of woodworking machinery and President Raymond W. Egan reports that prospects for 1930, the 100th anniversary of the company, indicate a banner year.

Storage-Battery Locomotives.—The United States Department of Commerce, Bureau of Mines, has issued bulletin No. 313 on Permissible Storage-Battery Locomotives and Power Trucks. The bulletin was prepared by L. C. Ilsley, E. J. Gleim and H. B. Brunot and copies may be purchased from the Superintendent of Documents, Washington, D. C., at 45 cents each.

Power Farm Equipment Show.

The Wichita Thresher & Tractor Club, Inc., Wichita, Kans., will sponsor the 29th annual Western Tractor and Power Farm Equipment Show at Wichita, February 25-28. This organization will also sponsor the 4th annual Model Kitchen and the 5th annual Southwest Road Show and School. Officers have been elected as follows for 1930: E. L. Kirkpatrick, president, manager of Advance-Rumely Thresher Co., Wichita; A. C. George, vice president, manager at Wichita of the International Harvester Company of America; F. G. Wieland, secretary and treasurer.

Reports of Baltimore Savings Banks.

The 112th annual report of the Savings Bank of Baltimore at the close of business December 31 indicates the progress this institution has made during the century and more of its operation. It opened 6,894 accounts during 1929, as against 6,572 closed during the same period, leaving the total number of accounts open at the end of the year 62,010. The assets of the company are estimated at $78,161,953. The Provident Savings Bank of Baltimore opened 19,463 new accounts during 1929, as against 15,954 accounts closed in the same period, which indicates a healthy condition of this institution, with estimated assets of more than $17,000,000. The number of accounts now open is 86,915. Open accounts on the books of the Eutaw Savings Bank at the close of business December 31, 1929 number 47,162, a total of 5,147 having been opened during the year and 5,340 having been closed. The estimated assets of this institution amount to more than $52,000,000. The Citizens Savings Bank of Baltimore City, according to its report, has estimated assets of more than $9,134,000 and existing accounts of 15,827, having opened 2449 during the year and closed 1623.

Industrial Baltimore.—The Baltimore Trust Company, which recently opened its 34-story building, is distributing a booklet "Locate in Baltimore," one of a series presenting industrial advantages of the city; other booklets published by the company include "Why Glenn L. Martin Chose Baltimore," "Baltimore—Industrial City of the Atlantic Seaboard," and "How a City Won an Industry," which details reasons why the Western Electric Company selected Baltimore for a $24,000,000 plant.

Magnetic Sharpener.—The Monroe Specialty Company, Stamford, Conn., and New York City, is distributing literature illustrating and describing the use of the Monroe magnetic sharpener for razor blades.

Paver and Tilting Mixer.

The T. L. Smith Company, Milwaukee, Wis., one of the independent divisions of the National Equipment Corporation, has announced a large showing of Smith mixers and pavers at the Road Show in Atlantic City. A new 1930 model 27-E paver and new 84-S three yard Smith tilting mixer with weigh-mix equipment will feature the exhibit, which will also contain a representative line of Kwik-Mix mixers.

American Steel and Wire Exhibit.

A comprehensive exhibit will be shown by the American Steel & Wire Company, Chicago, at the Road Show in Atlantic City next week. The display will consist of concrete reinforcement fabrics, triangular mesh and electric weld for reinforcement of streets and highways, steel posts for highway signs and snow fences, American wire rope for road machinery operation and highway guard cables.

Conveyor Equipment.—The Saginaw Stamping & Tool Co., Saginaw, Mich., is distributing its 1930 edition of catalogue No. 29-CE, illustrating and describing Saginaw conveyor equipment, including trolleys, roller turns, chain rollers, trolley wheels, gravity rollers, chain hoist trolleys, belt conveyor idlers and conveyor lubricators. Saginaw products are patented and their distinguishing features are said to lie in their design and manufacture.

Commercial Lighting.—Westinghouse Commercial Lighting is the title of catalog 219-B by the Westinghouse Electric & Manufacturing Co., South Bend, Ind. Lighting equipment for commercial interiors is described and illustrated in the publication, which may be obtained from any Westinghouse district office or from the advertising department of the company at East Pittsburgh, Pa.

Diary Book for 1930.—The 1930 diary book issued by the General Electric Company, Schenectady, N. Y., like its predecessors is an attractive little volume of vest-pocket size. In addition to memorandum space for each day of 1930, the book contains calendars for 1929, 1930 and 1931, together with geographical maps, and other data.

Railway Appointments.

The Louisiana Southern Railway Company, New Orleans, announces appointment of J. D. Youman as assistant to the president, in charge of traffic and industrial development, with headquarters at 1108 New Orleans Bank Building. P. J. Lala has been appointed secretary and treasurer.

New Interests in Continental Trust

According to an announcement by William J. Casey, president of the Continental Trust Company, Baltimore, a substantial block of the company's stock has been purchased by local and out-of-town interests headed by Alexander Brown & Sons, Baltimore. The deal does not involve a change of control of the Continental Company, but is intended to develop more widely the company's various activities. The stock acquired includes a large portion of the holdings of the S. Davies Warfield estate, it is understood, embracing 1200 shares of a total of 2200 shares.

Citrus and Industrial Edition

An expansion and citrus industrial edition of the Texas Fruit Growers Exchange issued recently by the Mission Times, Mission, Texas, presents a large number of illustrations and a wide variety of subject matter relating to the citrus industry. It is regarded as probably the most comprehensive publication yet issued on that industry in the Rio Grande Valley.

"Live-at-Home"

Rowan County, N. C., recently demonstrated that it is interested in any movement to better local conditions when 735 farmers and their wives assembled at Salisbury, the county seat, to partake of a "Live-at-home" banquet.

The novelty of the banquet, with large attendance of farmers from every section of the county and distinguished guests, local, state and nationwide, attracted much attention and will be made an annual event, the first experiment last year having shown its great social and economic benefit.

Foreign Trade in 1929.

A Statement by William L. Cooper, Director, Bureau of Foreign and Domestic Commerce.

The year 1929 was a record breaker in our foreign trade, both exports and imports showing an increase over the preceding year, and reaching totals which, when adjustment is made for changes in the buying power of money, decidedly surpass any attained even during the war and the immediate post-war boom. This gratifying result marks the continuance of a movement practically unbroken since 1921 and 1922. It reflects the steadily growing efficiency of American industry in production and of American merchants in pushing sales. It also indicates the high and advancing buying power of the people with the consequent increasing demand for those raw materials and foodstuffs, many of a luxury or semi-luxury character, which our own country is unable to produce at all, or only in insufficient quantities.

Just how much the foreign trade of 1929 surpassed that of the year before is not known at this writing. If December shows the same figures as that month did in 1928, our total exports will amount to about $5,300,000,000, or between 3 and 4 per cent more than during the preceding year, and our imports to about $4,450,000,000, an increase of 8 per cent.

Imports have increased more than exports; therefore, the balance of commodity trade in favor of the United States was somewhat less than in 1928. It was still very large, however, somewhere between $800,000,000 and $900,000,000 in value. Notwithstanding this excess of exports, there was a very considerable influx of gold during the year, in sharp contrast with the large net gold export in 1928. There was, however, a net export of gold during November and December.

The gain in export trade for 1929 was confined, in the main, to the first four months of the year, during which our foreign sales were nearly $300,000,000 greater than in the corresponding months of 1928. The remaining eight months showed either less increase or an actual decrease as compared with 1928.

As in most recent years the most conspicuous feature of the trade of 1929 was the expansion in the exports of the products of our factories. For the year as a whole, the foreign sales of semi-manufactured and finished manufactures (the latter by far the larger group) were in the neighborhood of $3,250,000,000. This means a gain of approximately $300,000,000 or 10 per cent over 1928. Year by year American manufacturers have been growing in popularity in foreign markets. The total for 1929 was 80 or 90 per cent greater than that for 1922, only seven years ago, and nearly 200 per cent greater than in the average year of the immediate pre-war period, after allowing for the higher level of prices. The United States now leads the world as an exporter of factory products. Finished manufactures, which before the war represented only about three-tenths of our exports, are now half of the much larger total. The importance of this huge exportation of manufactured goods as a stabilizer of industry and employment is obviously very great.

Telephone Rates Reduced

Effective January 1, 1930, the American Telephone & Telegraph Company, New York, announces another reduction in long distance telephone rates, making the fourth reduction this organization and its associated companies have made in long distance rates in a period of less than 3½ years. It is estimated that this last reduction will result in an annual saving to the public of more than $5,000,000. Approximately 45,000,000 calls a year, most of them interstate, will be affected by the change in rates. The majority of station-to-station daytime calls between points 60 to 300 miles apart will be lower and overtime rates on person-to-person messages of more than ten chargeable minutes are reduced. Report charges on practically all calls between 100 and 2000 miles have also been cut. The rapid increase in the use of toll service continued through 1929, while the improvement of equipment and operating methods resulted in a speeding up of service, so that about 95 per cent of all toll and long distance calls are now handled while the calling party remains at the telephone.

North Carolina First in Copper Ore Average Says Federal Report

"Copper in 1927," a report issued by the U. S. Bureau of Mines of the Department of Commerce, brings out information that is a revelation, states Conservation and Industry, Raleigh. A table in the publication shows that a higher average copper content was taken from North Carolina ores than from any other being mined in the United States.

The average metal from North Carolina ores for the recorded year of 1927 was 7.09 per cent, twice as great as the percentage from any other state. Colorado ores, averaging 3.57 per cent, were second, while the ores of Arizona, the leading producer of copper, averaged only 1.56 per cent.

State Geologist H. J. Bryson, attributes the recent interest in North Carolina copper to richness of the ores and to reports of other valuable deposits.

West Virginia Wants Wood Waste Survey

Plans for a survey of the wood waste available from sawmill and woodworking plants of West Virginia are being mapped by the National Committee on Wood Utilization of the Department of Commerce. Formation of these plans at present follows a resolution passed at the first annual Commercial Forestry Conference held at Charleston in December, when Axel H. Oxholm, director of the National Committee made an address. The survey will forge another link in the series projected by the committee; two of these, Virginia and North Carolina, have already been completed.

According to Mr. Oxholm, the West Virginia survey would benefit the state in several ways. He said:

"In the first place it would enable forest industries to supply at least part of their wood requirements from the wood waste developed in the survey and thus cut down the drain on standing timber. When it is remembered that the committee's survey in Virginia showed 28,000 carloads and in North Carolina 33,000 carloads of such waste available annually, the possibilities of a similar survey in West Virginia are apparent. Among other things an appraisement is likely to bring into the state outside industries which could utilize this wood waste."

Southern Aeronautical Meeting

Miami, Fla.—The first Southern Aeronautical meeting of the Society of Automotive Engineers, New York, will be held at the Columbus Hotel in this city on the evening of January 14, at which many aeronautical executives, engineers and pilots now in Florida and Cuba are expected. Lieutenant Carl B. Harper, of the United States Navy, will serve as chairman and papers will be presented by J. M. Eaton, general traffic manager of the Pan-American Airways, Inc.; Clarence M. Young, Assistant Secretary of Commerce for Aeronautics, and William B. Stout, president of Stout Air Services, Inc.

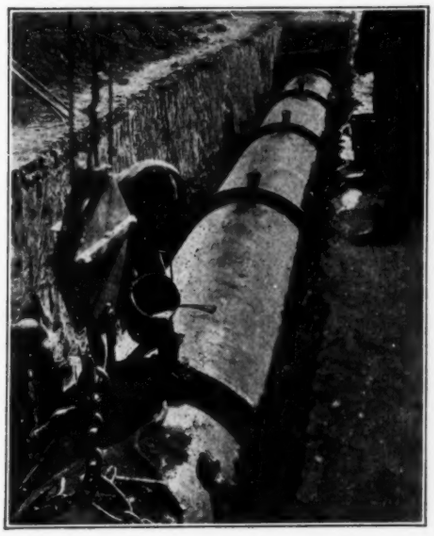
Progress Program Doubles Revenue

Operating for several years on a budget of $12,000, the Chamber of Commerce of Alexandria, La., through its directors, adopted the "Program of Progress" plan last July and conducted a campaign in November to place the Chamber on a sound financial basis and to obviate the necessity of soliciting extra funds from business firms. The result of the campaign was to secure an operating fund, more than double previous annual budgets. A booklet, which was an important factor in the success of the campaign, outlines the plan of the Chamber.

LEADITE

Trade Mark Registered U.S. Pat. Office

—Laying 48-in. c. i. pipe with LEADITE



—Pouring 48-in. c. i. pipe joints with LEADITE

Louisville, Ky. has used LEADITE for jointing 165.82 Miles of Water Mains

In fact, since 1923 the Louisville Water Co., Louisville, Kentucky has used LEADITE "exclusively" for jointing cast iron water mains varying in sizes up to and including 48", working pressures from 90 lb. per sq. inch down.

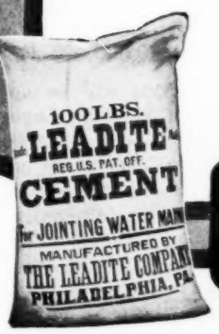
The reason why the Louisville Water Company has used LEADITE exclusively since 1923 is probably best explained in a recent letter from Mr. John Chambers, Chief Engineer and Superintendent, which reads in part as follows:

"These water mains have been in service six years and less and the joints are tight. Some of the lines were tested by the Pitometer Company of New York and no appreciable leakage was found."

"I consider LEADITE perfectly satisfactory as a joint material for cast iron bell and spigot pipe. The best that I can say for the material is that the Louisville Water Company intends to continue its use."

The pioneer self-caulking material for c.i. pipe.
Tested and used for over 30 years.
Saves at least 75%

THE LEADITE COMPANY
Land Title Building - - Philadelphia, Pa.



No Caulking

FINANCIAL NEWS

Bond Issues Proposed

Ala., Anniston—City, Sidney J. Reaves, Mayor, receives bids Jan. 23 for $35,000, 5½%, $1,000 denom. library bonds. 1-2-1930

Ala., Birmingham—City Comn. plans voting Feb. 25 on $3,000,000 bonds for drainage canals; Village and Valley Creek; A. J. Hawkins, City Engr. 1-2-1930

Arkansas — Highway — State Note Bd., Ralph Koonce, State Treas., Little Rock, receives bids Feb. 11 for $18,000,000, not to exceed 5% bonds; lately noted bids Jan. 11. 1-2-1930

Fla., Jacksonville—Sidewalk—City Comn., M. W. Bishop, Sec., rejected bids for $75,000 5% coupon bonds. 12-5

Fla., Madison — Road — Madison County Commrs., D. F. Burnett, Jr., Clk., receive bids Jan. 13 for $91,000 5%, $1000 denom. bonds.

Fla., St. Petersburg—City Comn., considering bond issue to construct belt line railway, connecting Port of St. Petersburg with rail terminals; Maj. Cramer B. Potter, Chmn. City Port Committee.

Fla., Tampa—Hillsborough County Commrs. considering $150,000 bond election for detention house.

La., Arabi—St. Bernard Parish Water Dist. No. 1, Lois H. Folse, Sec., Bd. of Water Commrs., receives bids Jan. 30 for $150,000, $1,000 denom. not to exceed 6% bonds.

La., Lake Providence—Sewer—Town, S. B. Kennedy, Clk., receives bids Feb. 4 for $100,000, 5%, $1,000 denom. bonds.

La., Many—Sabine Parish School Bd., G. C. Reeves, Supt., rejected bids for $45,000 bonds. 12-12

La., Rayne—Acadia Parish Police Jury, Crowley, plans bond election for $75,000 drainage system.

La., Shreveport — Water—City, L. E. Thomas, Mayor, probably sell $500,000 bonds in March; Velda Skinner, Sec. 12-26

La., Thibodaux—Water—Town voted $200,000 bonds. 11-14

La., Thibodaux — Public Improvement — Town, Chas. J. Coulon, Clk., receives bids Jan. 31 for $195,000 $1000 denom. not to exceed 6% bonds.

Miss., Duncan — City votes within few weeks on $50,000 school bonds.

Miss., West Point—Road—Clay County plans voting in Feb. on $400,000 bonds. 12-19

Miss., Walthall — Road — Webster County Bd. of Supvrs. may call election latter part of Feb. on about $350,000 bonds.

Mo., Springfield—City considering $850,000 bond issue: $700,000, sewer; $150,000, extend fire fighting facilities.

Mo., St. Louis—Improvement—City, Bd. of Public Works, receives bids Jan. 30 for $9,000,000 bonds. 1-2-1930

N. C., Asheboro—Hospital—Town, C. C. Cranford, Mayor, voted $25,000 bonds. 12-5

N. C., Hickory—City voted $45,000 bonds to purchase Richard Baker Hospital. 12-26

N. C., High Point—City Council rejected bids for $1,500,000 water and sewer bonds. 12-12

N. C., Sanford—Lee County Commrs. considering $62,500 bond issue to acquire site and erect public hospital.

Okla., Guthrie—City votes Jan. 14 on $83,000 bonds: $70,000, school; $13,000, athletic field and playground.

Tenn., Chattanooga — Road — Hamilton County, Will Cummings, County Judge, plans issuing $150,000, not to exceed 5% bonds.

Tenn., Dickson—School—Bd. of Aldermen considering issuing $10,000 bonds.

Tenn., Elizabethton—City Council considering $250,000, 6% funding bond issue.

Tenn., Erwin—Indebtedness—City plans issuing $25,000, not to exceed 6% bonds.

Tenn., Murfreesboro — Rutherford County Quarterly Court plans selling $200,000, not to exceed 6% floating indebtedness bonds.

Tenn., Sharon—School Bd., J. W. Overton, Asst. Sec., receives bids, subject to election Jan. 10, for $20,000, $1,000 denom. not to exceed 6% Sharon Special School bonds.

Tex., Amarillo—Bd. of Education, Dr. D. Roach, calls election for Jan. 14 on $550,000 bonds. 1-2-1930

Tex., Angleton—Road—Brazoria County considering $4,500,000 bond election. 1-2

Tex., Corpus Christi—Road—Nueces County Commrs. Court, Nat Benton, County Judge, probably call $2,500,000 bond election in Mar. 12-5

Tex., Corpus Christi—City, Theo. Koester, Sec., voted $215,000 bonds: $115,000, street widening; $60,000, incinerator; $20,000, parks; $10,000 sanitary sewers; $10,000 storm sewers. 12-5

Tex., Corsicana — Road—Navarro County, Clay Nash, County Judge, receives bids Jan. 27 for $1,336,000, Consolidated Road Dist. No. 1 bonds.

Tex., Del Rio—Del Rio Independent School Dist. probably vote early in 1930 on bonds. 12-12

Tex., Eden—Eden Independent School Dist. voted $65,000 bonds. 12-19

Tex., Georgetown—Sewer—City voted $60,000 bonds; M. F. Smith, Mayor. 12-5

Tex., Groesbeck—Road—Limestone County, Johnson Wakefield, County Judge, plans voting latter part of Feb. on $1,000,000 bonds: $715,000, road; balance to take up existing bonds. 12-12

Tex., Hallettsville—Road—Lavaca County, A. W. Janszen, County Judge, receives bids Jan. 15 for $25,000 bonds.

Tex., Kermit—Road—Winkler County, C. W. Cogdell, County Auditor, receives bids Jan. 14 for $225,000, 5½%, $1000 denom. bonds.

Tex., Kerrville—Road—Kerr County considering election soon on $500,000 bonds.

Tex., Mathis — Mathis School Bd. plans $45,000 bond election.

Tex., Mobeetie — Mobeetie Independent School Dist. votes soon on $40,000 bonds.

Tex., Paducah — Road—Cottle County, James M. Whatley, County Judge, will sell at public auction, Jan. 15, $350,000, 5% bonds.

Tex., Pharr—Bd. of Supvrs. Pharr-San Juan Irrigation Dist., Hidalgo County, plans selling $3,000,000 bonds.

Tex., Sweetwater—Bd. of Education, C. R. Simmons, Pres., calls election for Jan. 21 on $180,000 bonds. 12-12

Va., South Norfolk, Norfolk—School Bd. receives bids Jan. 22 for $15,000, 5%, $1,000 denom. bonds.

Bond Issues Sold

Ala., Tarrant, Birmingham—City, Wallace Wells, Clk., sold $51,000 $1000 denom. paving bonds to Caldwell & Co., Nashville, Tenn., and Birmingham, at 97.80. 12-19

Ark., Little Rock—Brown-Crummer Co., Wichita, Kansas, purchased $25,000, 5% Pulaski County school bonds at 97.75.

Fla., Bartow—Refunding—City, George K. McNamee, Clk., sold $64,000 6% coupon bonds to Brown-Crummer Co., Orlando, at 90. 11-28

Mo., Rolla—Phelps County, F. C. Kerr, Treas., sold $60,000, 4½%, judgment funding bonds to City Bank of Kansas City, Mo., at par. 12-19

N. C., Chapel Hill—Public Improvement—City sold $55,000 5¼% bonds, jointly, to Detroit & Security Trust Co., Detroit, and Bank of Chapel Hill, $301 premium.

Okla., Marlow — Water—City, George L. Orr, Clk., sold $60,000, 6% bonds to Taylor-White Co., Oklahoma City. 1-2

Tenn., Dayton—School—Rhea County, J. G. McKenzie, County Judge, sold $150,000 indebtedness bonds to Caldwell & Co. and J. C. Bradford Co., both Nashville. 12-19

Tex., Jacksboro — Jacksboro Independent School Dist., Works Porter, Pres., sold $49,000 5% bonds to Garrett & Co., Dallas. 12-12

New Financial Corporations

Ark., Russellville — Matthews Investment Co., Inc., capital $50,000, chartered; A. J. Matthews.

Ky., Hickman — Hickman Bank & Trust Co., considering re-organizing: E. Gardner, Mayfield, Chmn. of Bd.; H. L. Amberg, Hickman, Pres.

La., Bastrop—Southern Finance Co., Inc., capital $150,000, chartered; E.B. Folse, Pres.; E. S. Turpin, Sec.

Mo., Kansas City—Plaza Bank of Commerce, Country Club Plaza, Central St. and Alameda road, capital $200,000, filed application for charter; James Ketner, Pres.; Walter S. McLucas.

Mo., Kansas City — Traders Gate City National Bank, 1111 Grand Ave., formed by directorates of Traders National Bank, J. R. Dominick, Pres., and Gate City National Bank, W. B. Planck, Pres.; capital, surplus and undivided profits totaling $540,000; J. R. Dominick, Pres.; W. B. Planck, First V.-P.

N. C., Lenoir—First National Bank opened; W. J. Lenoir, Pres.; E. F. Allen, Cashier.

Va., Richmond—Morris Plan Regional Investment Corp., capital $1,000,000, organized; Thomas C. Boushall, Pres., Main and Fifth Sts.; Anton C. Adams, Sec.-Treas.; purchased majority holdings in Morris Plan Industrial Banks at Winston-Salem, Greensboro and Raleigh, N. C.; acquired control of Morris Plan Bank of Washington, D. C., and Morris Plan Bank of Wilmington, N. C.

Bank of Springhill, J. F. Giles, Pres., Springfield, La., and Commercial Bank, Ben Johnson, Pres., Cotton Valley, La., merged as Commercial Bank and Trust Co., with J. F. Giles, Chmn. of Bd.; capital and surplus $75,000.

Citizens & Southern Holding Co., William Murphey, Pres., Savannah, Ga., acquired controlling interest in stock of Albany Exchange National Bank, Paul J. Brown, Pres., Albany, Ga.; Mr. Murphey to be Chmn. of Bd. of Albany Exchange National Bank.

Corpus Christi Trust Co., Corpus Christi, Tex., changed name to Corpus Christi Bank & Trust Co., with J. W. George, Pres.; B. F. Dittmar Co., San Antonio, acquired substantial interest in bank.

Corsicana National Bank, A. G. Elliott, Pres., Corsicana, Tex., plans increasing capital, $100,000 to $300,000.

Farmers National Bank, R. C. Chapman, Pres., and Bank of Clinch Valley, R. O. Crockett, Pres., both Tazewell, Va., plan consolidating as Farmers Bank of Clinch Valley, with capital, surplus and undivided profits of $260,000; R. C. Chapman, Chmn. of Bd.; R. O. Crockett, Pres.

First National Bank, Geo. Williams, Pres., and National City Savings Bank & Trust Co., C. L. Warner, Pres., both Vicksburg, Miss., consolidated as First National Bank & Trust Co., Geo. Williams, Pres., with $1,200,000 capital, over $9,000,000 resources.

First National Bank, F. D. Powell, Pres., and Merchants and Producers Bank, S. Broadwater, Pres., both Salem, W. Va., merged as First National Bank with combined resources of about $1,500,000.

Morris Plan Bank of Virginia, Thomas C. Boussall, Pres., Richmond, Va., increased capital $600,000 to $800,000; plans further increase to $900,000, Feb. 28, and still further increase to $1,000,000 later in 1930.

People's National Bank, D. C. Sloan, Pres., and Bank of Gate City, P. H. Nickels, Pres., both Gate City, Va., merged as People's National Bank of Gate City, D. C. Sloan, Pres.; J. W. Carter, Chmn., Bd. of Directors and active V.-P.; total resources over $750,000; capital and surplus over $50,000.

Peoples State Bank of South Carolina, R. G. Rhett, Jr., Pres., Charleston, S. C., purchased Citizens' Bank, W. A. McClam, Pres., Lake City, S. C.

Sylvania Banking Co., J. A. Mills, Pres., and National Bank of Sylvania, A. R. Roberts, Pres., both Sylvania, Ga., plan consolidating with J. A. Mills, Pres., and capital, surplus and undivided profits $75,000 to $85,000.

William J. Casey, Pres., Continental Trust Co., Baltimore, Md., advises, local and out-of-town interests, headed by Alexander, Brown & Sons, Baltimore, purchased substantial block of company's stock, including large portion of holdings of estate of late S. Davies Warfield.

St. Louis Offers $9,000,000 Bonds

St. Louis, Mo.—Bids will be opened January 30 by the City of St. Louis for the purchase of a new issue of $9,000,000 improvement bonds, details to be announced soon. An issue of $6,000,000 4½ per cent public building and improvement bonds was sold September 26, 1929, to a group headed by Estabrook & Co., New York, who resold $2,058,000 of the bonds to the city's sinking fund.